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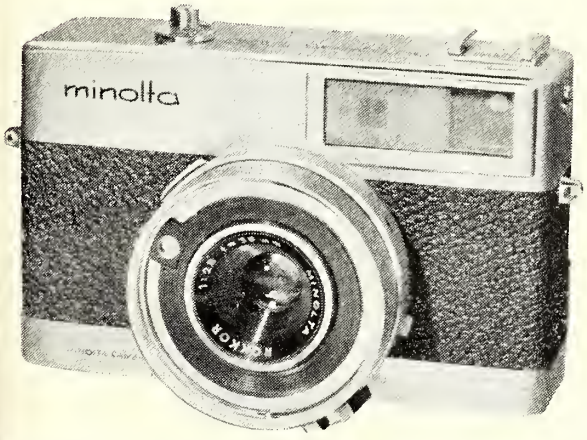

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THE CHEMIST AND DRUGGIST

ESTABLISHED 1859

THE WEEKLY NEWSPAPER FOR PHARMACY
and all sections of the drug, pharmaceutical, fine chemical, cosmetic, and allied industries

Official organ of the Pharmaceutical Society of Ireland and of the Pharmaceutical Society of Northern Ireland

Volume 185 March 26, 1966 No. 4493

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PUBLISHED BY

MORGAN BROTHERS (PUBLISHERS), LTD.,
at 28 Essex Street, Strand, London, W.C.2
Telephone: Central 6565

ABC MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

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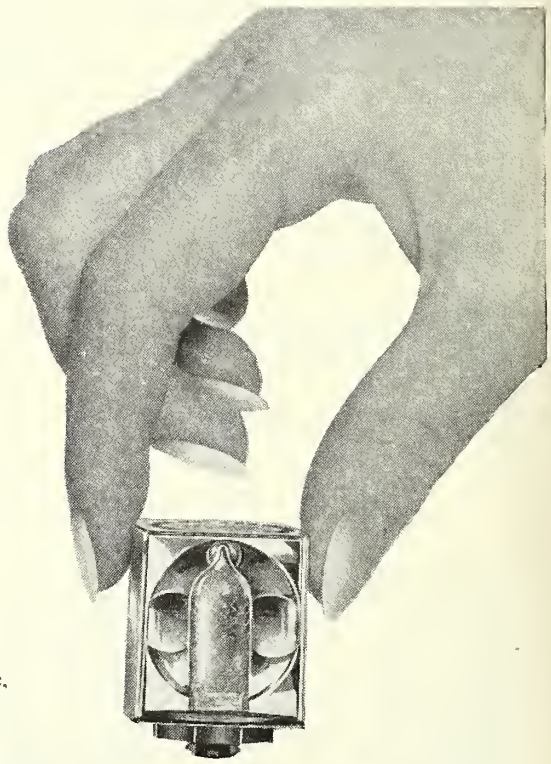

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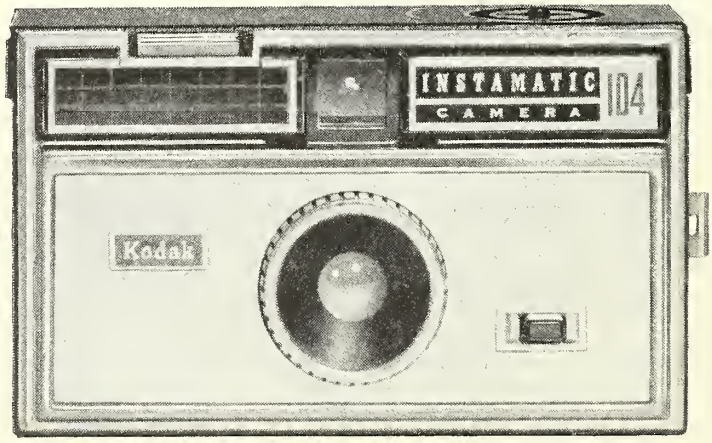

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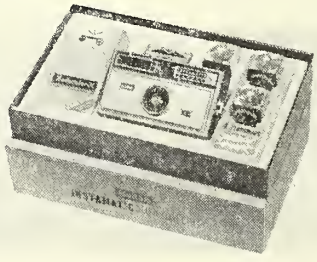

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The CHEMIST AND DRUGGIST

Volume 185 MARCH 26, 1966 No. 4493

Morning Glory Seeds

SALES HALTED AFTER MISUSE REPORT

THE Home Secretary has asked suppliers of seeds of the morning glory plant (*Ipomœa* spp) to suspend sales pending the outcome of investigations by the Pharmaceutical Society to determine whether any varieties sold in Britain could be dangerous. The Home Secretary's action follows reports that the seeds had been used to produce hallucinogenic effects.

On March 21 it was stated in the Press that the Society had been able to trace in the literature only one variety of morning glory that was said to possess hallucinogenic properties, and that the only reports on the misuse of the seeds had been in the American literature; wholesale seed merchants were being notified of the variety's name. On March 22, Mr. F. W. Adams (secretary of the Society) after a call at the Home Office at the Minister's request, in order to discuss the need for safeguards, said that, in the Society's view, the risk of the seeds giving rise to trouble could be exaggerated. The Society was, however, carrying out urgent laboratory investigations and hoped to be able to provide guidance within a week or two as to which categories of the seeds might be dangerous and which were safe. The sale of seeds that were dangerous would be an offence under the Pharmacy and Poisons Act, 1933. On B.B.C.'s *Radio Newsreel* on March 22, Mr. Adams was asked to comment on a report that thirty-six packets of the seeds had been purchased by one person in the Richmond, Surrey, area. Was that a dangerous quantity? Mr. Adams replied that that would depend upon the quantity of LSD or other lysergic acid derivative in the seed. A small amount would have a transient effect, but a large quantity would be extremely dangerous. The interviewer then asked whether the Pharmacy Acts and number of inspectors were sufficient to deal with "this sort of emergency." Mr. Adams said: "At the moment, yes, but the drug problem is growing. There are grounds for saying that much tighter control is called for. We are hoping that under new legislation this will be achieved."

Teething Powders

WARNING ON SALE OF OLD STOCKS

FOLLOWING the discovery of old stocks of teething powders containing mercury in a shop at Swinton, Yorks, the Sheffield coroner (Dr. H. Pilling) has issued a warning about the sale of such products. A baby in the town was poisoned by teething powders two years ago. A report in the London *Daily Express* (March 17) quotes Dr. Pilling as saying "I had hoped that, after the inquest, the publicity would have spurred all shopkeepers into making sure that they had no stocks of these powders left. I must warn that if there is another death in the area as a result of these powders, one would have to think in terms of whether there was not some criminal responsibility on the part of those who failed to check their stocks after being asked to do so."

Drug Safety

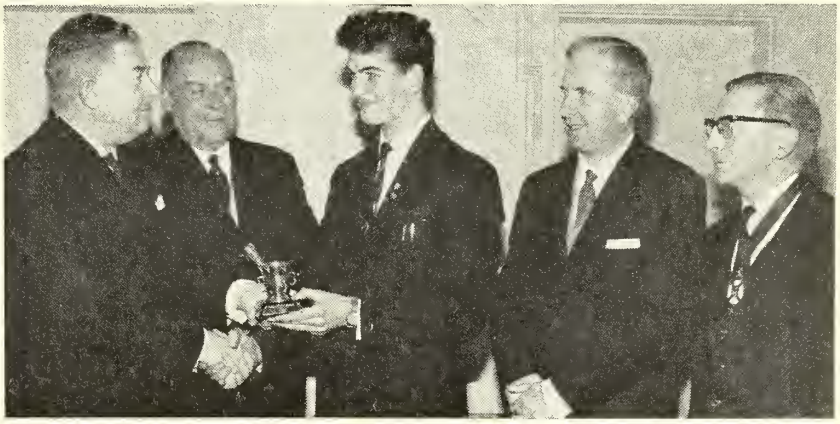
"SOME RISK" MUST BE ACCEPTED

PEOPLE who want progress in the fight against disease must be ready to accept some risk in drugs, said Sir Derrick Dunlop (chairman, Committee on Safety of Drugs) when he spoke at the annual meeting of the Odonto-Chirurgical Society in Edinburgh on March 18. Already they accepted risks in smoking, road travel and major surgery—risks that were often greater than with safeguarded medicines. The truth lay somewhere between the extremes of distrust and complacency. On the one hand there was an almost hysterical distrust of drugs and the drug trade—an attitude so unobjective and unthinking as to endanger the fight against disease. On the other hand was the "rather complacent" attitude towards the toxicity of drugs that had been there before the thalidomide disaster. Those who thought of drugs as medicines believed that the adverse effects of medicines had got quite out of proportion to their benefits. The lay Press were partly responsible for that.

British Approved Names

THE following supplementary list of approved names has been issued by the British Pharmacopœia Commission:—

Approved Name	Other Names
Bolmantalate	17β-Hydroxyoestr-4-en-3-one adamantane-1-carboxylate
Candicidin	An antibiotic produced by *Streptomyces griseus* (Candeptin)
Carbocloral	Ethyl (2,2,2-trichloro-1-hydroxyethyl) carbamate (Chloralurethane; CI 336)
Dextriferron	A colloidal solution of ferric hydroxide in complex with partially hydrolysed dextrin (Astrafer)
Dimethothiazine	10-(2-Dimethylaminopropyl)-2-dimethylsulphamoylphenothiazine (8599 R.P. is the mesylate)
Fenimide	3-Ethyl-2-methyl-2-phenylsuccinimide (CI 419)



SILVER AWARD TO STUDENT: The Antigen silver award, made to the final-year student of pharmacology who gains first place in Ireland, went this year to Mr. John Holly, B.Sc.(Pharm.), 85 North Main Street, Youghal, co. Cork. Mr. Holly, who is at present on the staff of University College, Dublin, took his degree when he was only nineteen years of age. He is the elder son of the late Mr. Francis E. Holly, M.P.S.I., Youghal. Photographed at the presentation of the award at the College of Pharmacy, Dublin, recently, were Messrs. D. L. Thornton (a director of Antigen, Ltd.), who is seen making the presentation, and G. F. Fasenfeld (managing director, Antigen, Ltd.), Professor R. F. Timoney (dean of the College of Pharmacy) and Mr. Jack P. O'Donnell (president of the Pharmaceutical Society of Ireland).

Fenpipramide	2,2-Diphenyl-4-piperidinobutyramide (Present in Efosin as the hydrochloride)
Fenpiprane	1-(3,3-Diphenylpropyl) piperidine (Present in Efosin as the hydrochloride)
Ketamine	2-(2-Chlorophenyl)-2-methylaminocyclohexanone (CI 581 is the hydrochloride)
Mefruside	4-Chloro-N^1-methyl-N^1-(2-methyltetrahydrofurfuryl)-benzene-1,3-disulphonamide (FBA 1500)
Meteclopramide	4-Amino-5-chloro-N-(2-diethylaminoethyl)-2-methoxybenzamide (Primperan is the hydrochloride)
Oxypertine	1-[2-(5,6-Dimethoxy-2-methylindol-3-yl)ethyl]-4-phenylpiperazine
Pentazocine	1,2,3,4,5,6-Hexahydro-8-hydroxy-6,11-dimethyl-3-(3-methylbut-2-enyl)-2,6-methano-3-benzazocine
Proscillaridin	3β,14β-Dihydroxybufa-4,20,22-trienolide 3-rhamnoside (Talusin)
Retinol	Vitamin A alcohol
Sodium Glucaspaldrate	Octasodium tetrakis (gluconato) bis(salicylato) μ-diacetatodialuminate III dihydrate
Thiazesim	5-(2-Dimethylaminoethyl)-2,3-dihydro-2-phenylbenzo-1,5-thiazepin-4-one (SQ 10496 is the hydrochloride)

Animal Diseases

RETURNS FOR 1965

AN isolated outbreak of foot-and-mouth disease occurred in Great Britain in 1965 following a two-year period of freedom from the disease. Outbreaks of swine fever were at their lowest level since 1949 and there was considerably less fowl pest than in 1964.

SHOCK TACTICS: An old dentist's drill was chosen as the centre-piece for a window-display by Ward & Woolman, Ltd., Gloucester, to tie-in with the recent dental health campaign in Gloucestershire (see paragraph below).

Dental Care

CHEMISTS' PART IN A COUNTY CAMPAIGN

A FORTNIGHT-LONG dental health campaign, in which Gloucestershire pharmacists and dentists co-operated, ended on March 19. Decision to stage the campaign as a pilot study was taken at a meeting in Cheltenham on October 19, 1965. Two display cards were produced and distributed to dentists to place in their waiting rooms, and to pharmacists to use in window displays. Mr. W. Talvan Rees (chairman, Gloucestershire Pharmaceutical Committee) reports that the response by pharmacists was well up to expectations. Praise for pharmacists' efforts has also been passed on by Mr. J. F. A. Smyth (County Dental Officer) who said that "on the whole they had made an effort to make a success of the campaign." During the campaign Mr. J. H. Tee (chairman of the dental committee) was interviewed on B.B.C. television for Wales, the campaign showcards were screened in Midlands television programmes, and the campaign also received local newspaper publicity, with special supplements. Mr. R. Stoddart (joint secretary, Gloucestershire Branch, National Pharmaceutical Union), reports considerable public reaction to the campaign.

N.H.S. DRUG TESTING SCHEME

A change in procedure using Society's inspectors

A NUMBER of changes in the model drug-testing scheme has been agreed by the Central N.H.S. (Chemist Contractors) Committee and the Pharmaceutical Society of Great Britain. Principal changes from the present scheme are:—

(i) Test prescriptions obtained from doctors will no longer be used.

(ii) Samples for test purposes will be collected by an inspector of the Pharmaceutical Society and not by agents of Executive Councils.

(iii) A sample for testing will be selected from dispensed N.H.S. prescriptions that are awaiting collection by patients.

(iv) The original form EC10. EC10 (D) or EC14 will be sent for pricing in the normal way. Three copies of the prescription will be made by the inspector in respect of the item selected for testing, and a new form EC10 (DTS) will be used for that purpose. The entries on it will be certified as correct by the inspector and the pharmacist. Two copies will be forwarded with the test sample to the Executive Council, and the third will be retained by the chemist for subsequent pricing when that is authorised.

There are no changes in the arrangements for analysis and the subsequent procedure. Executive Councils have been asked by the Ministry of Health to consider formal adoption of the new scheme, after consulting the Local Pharmaceutical Committee, not later than May 1. The Contractors' Committee points out that, where a drug or appliance awaiting collection is selected by the inspector, the chemist will need to dispense the prescription again so that the item prescribed will be available for the patient. "In making his selection the inspector will be mindful of the prior claims of the patient, and where the taking of a particular item would cause inconvenience to the patient (because, for example, the chemist had no further stock of that item), another sample for testing will be selected." Because the patient usually collects appliances when presenting a prescription it is anticipated that there will be very few dispensed prescriptions for appliances suitable for testing awaiting collection by patients. It has therefore been agreed that where the pharmacist holds an undispensed form EC10 which includes an order for an appliance suitable for testing the inspector may ask for that appliance. Only one sample will be collected by the inspector at any one time, and samples will not be taken from items dispensed on form EC10 (H.P.) or EC10 (S). The Central N.H.S. Committee considers that the new method of sampling represents an improvement on the present procedure.

Dentists Alerted

POSSIBLE INTERACTIONS OF DRUGS

THE Committee on Safety of Drugs, has drawn the attention of dentists and doctors to possible hazards due to interaction between monoamine oxidase inhibitors and drugs used in dentistry (dentists were not included on the committee's original mailing to doctors on M.A.O.I.'s). Particular care is advised to avoid the use of sympathomimetic drugs in patients who are being treated or have been treated with monoamine oxidase inhibitors by their physicians less than fourteen days before any dental operation. The drugs used in dentistry and which should be used with caution in such patients include adrenaline and nor-adrenaline: analgesic mixtures of drugs containing amphetamine, dexamphetamine, methylamphetamine or ephedrine should be avoided. Dentists are advised, in those circumstances, to confirm that any analgesic preparations prescribed or dispensed by them do not contain any such drugs and they are reminded that there are several preparations available the proprietary names of which do not suggest their content. The actions of powerful analgesics, such as pethidine and morphine, may be potentiated by monoamine oxidase inhibitors.

IRISH BREVITIES

THE REPUBLIC

MR. D. L. Thornton (managing director, Antigen, Ltd.) presented the Antigen award (for the final-year pharmacology student gaining first place in Ireland) to Mr. J. Holly, North Main Street, Youghal, co. Cork, at a ceremony prior to the March 8 meeting of the Pharmaceutical Society of Ireland Council.

IRISH NEWS

THE REPUBLIC

Lourdes Pilgrimage

BOOKING ARRANGEMENTS

THE annual Irish pharmaceutical pilgrimage to Lourdes leaves Dublin airport at 9 p.m. on August 3 and returns from Lourdes at 8.50 p.m. on August 16. Intending participants should inform secretaries, 69 Palmerston Road, Rathmines, Dublin, 6, so soon as possible, sending a £3 deposit, balance to be paid by June 1. Air fare, including bus fares (both directions) and airport taxis, is £37. Hotel accommodation is expected to cost from £29 12s. 6d. to £27 16s. 6d. per person. The hotel is reported completely booked, and the Committee must confirm arrangements immediately.

NEWS IN BRIEF

THE validity period of International certificates of vaccination or revaccination against yellow fever has been extended from six to ten years.

METHODS of combating the misuse of drugs in Edinburgh are being examined by a committee set up by the local Executive Council.

THE World Health Organisation has published a booklet outlining its activities in nutrition during the years 1948-64 (H.M. Stationery Office, price 3s. 6d.).

CHOLERA spread to twenty-three countries in 1965. Provisional World Health Organisation figures indicate that there were 51,334 cases of the disease and 13,990 deaths.

A GIFT of £500 has been promised by Pfizer, Ltd., Sandwich, Kent, to the Canterbury and Kent Coast group of the Spastics Society towards the building of a hospital day school at Broadstairs.

A NEW Enfield Group Hospital Management Committee will take over, on April 1, the management and control of hospitals formerly under the Enfield Group and Edmonton Group committees, which are being dissolved. Address of the new committee is North Middlesex Hospital, Silver Street, London, N.18.

A GRANT of £50,000 over five years to the Royal Society of Medicine by the Reginald M. Phillips Charitable Foundation will be used to establish an endowment fund to provide for the purchase of books and journals for the Society's library, which is one of the most comprehensive medical libraries in the world.

PRODUCTS accepted for inclusion in the Design Index of the Council of Industrial Design, 28 Haymarket, London, S.W.1, in February included a seat stick/camera support (stem and extension columns of aluminium alloy tube, stem anodised bronze, columns silver anodised. Seat covered light brown leather) by Normec (Manchester), Ltd., Smalley Street, Castleton, Lancs; and a man's hair brush (back of teak with black impact polystyrene band, nylon tufts) by Bakelite Xylonite Ltd., consumer products division, Highams Park, London, E.4.

TOPICAL REFLECTIONS

By Xrayser

New vista

Your editorial comment on the subject of the scheme for private medical practice at the instigation of the General Practitioners' Association is very much to the point. It is perhaps a little early to begin to worry about the possible effects of an attempt to put back the hands of the clock, for so many factors are involved. It may be that the G.P.A. are a little sanguine about the welcome the general public will extend to the scheme. It seems to be asking a good deal, for example, of a family of father, mother and three children to pay 10s. a week for medical care —so long as they do not need it—additional to the current contributions to the National Health Service. When medical attention *is* required, it will be at a varying cost for each transaction—sorry, consultation. The details make it clear that the proposed scheme would "work alongside" the National Health Service, and one is left with the impression that those who do not support it will have to tolerate second best. Those are just a few of the points that are likely to occur to those faced with the choice, and they may be pardoned if they decide to transfer their allegiance to a doctor who does not give precedence to the better-off. But the effect on the general practice of pharmacy must be looked at closely. I think you are right in considering that such a scheme could readily involve the pharmacist in an ethical problem of "relationship." Doubtless the Pharmaceutical Society will examine that aspect and come forward with recommendations to its members. There are many reasons why the pharmacist should not become involved. A return to individual pricing of even a moderate number of prescriptions, and the rendering of accounts for each doctor, would be a costly and time-consuming operation at the best. I note that the hope is expressed that eventually most chemists will be brought into the scheme. It is also hoped that it will "break the monopoly of the N.H.S., provide the patient with freedom of choice and" —most important of all—"involve the doctor in no staffing or administrative worries."

Promises

We are going through another phase of promises on the part of those who solicit our support at the General Election in a week's time. I have read p. 268, which is largely devoted to points from the election manifestoes of the different parties. The column is not a political one in the generally accepted sense, though it has been known on occasion to express itself mildly concerning pharmaceutical affairs. I note that one of the parties, which I decline to name on the score of impartiality, seeks to obtain public support by a promise to restore prescription charges. If that should meet with the approval of the electorate, I hope that any suggestion that the pharmacist should again assume the rôle of unpaid tax-collector will be totally resisted. Perhaps the doctor who, to judge by the proposals of the General Practitioners' Association, is anxious to collect money at the source will volunteer to free the pharmacist of "staffing difficulties and administrative worries," if that should prove necessary. Another proposal—but readers should look for it themselves—is to "abolish the out-dated restrictions on the hours during which shops may open on week-days." A return to the good old days is a delightful prospect for those who have long memories!

B.P. addendum

Like most other books of reference, with the possible exception of a ready reckoner, the British Pharmacopœia does not stand still, as is shown by your summary of the Addendum that becomes official on September 1. It is significant that the volume is the second addendum to the B.P., 1963, indicating the ever-quickening expansion of modern medicine. To one whose first pharmacopœia cost 10s. 6d. and had a shelf life of eighteen years, the price for a second Addendum in two years may come as a surprise. The concise report of the changes (pp. 280-81) is of great value to the practising pharmacist.

LEGAL REPORTS

Price Condition Enforced

IN the Chancery Division of the High Court, London, on March 18 Mr. Justice Pennycuick granted Parke, Davis & Co., Inc., U.S.A., by consent, a perpetual injunction restraining Mr. H. Fox, trading as Fox's Fancy Goods and Toiletry, Tachbrook Street, London, S.W.1, from selling the company's products, provisionally exempted under the Resale Prices Act, below current list prices. The judge granted an inquiry as to damages and directed Mr. Fox to pay costs.

Insect Infestation

AFTER pleading guilty to selling a packet of Farex that was infested by insects, Great Moor Co-operative Society, Ltd., Woodsmoor, Stockport, Ches, were fined £25 at Stockport on March 16. It was stated that, when a housewife opened the packet at her home she noticed "brown marks inside which looked like insects with little legs." A small hole was found in the transparent wrapper of the packet. The magistrates dismissed a case brought by the Co-operative Society against Glaxo Laboratories, Ltd., that the contravention was due to the act or default of Messrs. Glaxo.

Unlawful Possession

A FATHER told the Highgate, London, court on March 9 that when he saw a coloured drug-chart on his son's bedroom wall "I thought it was just another kinky picture." The son, Martin Brook, unemployed, 10 Marriott Road, Muswell Hill, was sent to prison for six months and fined £100 or three months' imprisonment consecutively when he admitted two charges of being in unlawful possession of cannabis and 1,261 amphetamine sulphate tablets. Police officers told how they stopped Brook and searched his car and found some drugs. Later at his home they found more drugs. One officer said Brook was buying a pound of hemp for £55 and selling it for £6 an ounce. Since January he had accumulated £346 10s. in his bank account and when arrested he had £126 cash on him. He was of previous good character. Defending solicitor said Brook was involved in a serious accident on his motor cycle about three years ago and had been taking drugs. However, "he had no craving and no need for them," said the solicitor.

Burgled Shop Twice

ONE of three youths before the Wood Green magistrates on March 18 said in a statement to the police that he had sold stolen drugs and then, when he ran out of stock had stolen from a chemist's shop for the second time. The youth, and a young apprentice from Edmonton, together with Douglas Skinner, 42 Herbert Road, Edmonton, pleaded guilty to breaking and entering Raggs Chemists, Ltd., 7 The Green, Edmonton, London, N.9, on February 3 and stealing 130 Drinamyl tablets, 160 Dexedrine tablets, 4,000 phenobarbitone tablets, and £3 5s. in cash. Another charge related to stealing, among other things, two ampoules of morphine, amphetamine sulphate powder, 1,041 amphetamine sulphate tablets and 19 hypodermic needles worth £10 from the same chemist on February 27. Skinner further admitted breaking and entering the shop on February 26 and stealing combs, ampoules containing morphine, cocaine tablets, morphine tablets, phenobarbitone tablets, and amphetamine sulphate tablets. Skinner also admitted being in unlawful possession of three ampoules containing pethidine. The juvenile also admitted unlawful possession of amphetamine sulphate and morphine on March 4. With them was a 16-year-old labourer from Edmonton who admitted similar charges. He also admitted receiving on or before March 4 a box of hypodermic syringes and four needles and other articles knowing them to have been stolen. The offences were discovered when the two juveniles were stopped by the police and when the labourer was searched the officers found six ampoules of morphine hydrochloride. The homes of both juveniles were searched and more drugs were found. Later both juveniles admitted that the property had come from the chemist's shop. Skinner was committed to the Middlesex Area Quarter Sessions with a recommendation for Borstal training. The apprentice was placed on probation for two years, and the other juvenile was fined £10 for receiving and £2 on each of the possession charges which he was ordered to pay at the rate of £2 per week under the supervision of a probation officer.

COMPANY NEWS

Previous year's figures in parentheses

WILLOWS FRANCIS, LTD. — Interim dividend for the year ending June 30, is 7½ per cent. Group profits for 1965 were £44,848 (£43,460).

ASHE CHEMICAL, LTD. — The company has agreed to purchase, through its subsidiary (Ashe Laboratories, Ltd.), the capital of Saville Perfumery, Ltd., Capell Reads Co., Ltd., and Ross Laboratories, Ltd., for a total consideration of £78,500 cash.

LEWIS & BURROWS, LTD.—Mr. F. R. Greenlaw, M.P.S., joint managing director for the past fourteen years, is giving up that appointment but continues on the board as superintendent chemist. Mr. J. K. Louis, M.P.S., has been appointed general manager.

BAKELITE XYLONITE, LTD. — Mr. P. S. Adamson has been appointed managing director of the company's Cascelloid division in place of Mr. C. E. Macqueen who has taken over Mr. Adamson's post as B.X.L. director of administration.

BARCLAY & SONS, LTD.—Net profit, before tax for eight months ended December 31, 1965, was £23,527 (£34,730 for year). Corporation tax at 40 per cent. takes £7,970 (£11,825). Net profit after tax, £15,557 (£22,905). Dividend, 12½ per cent. for eight months (18¾ per cent.), has already been paid.

CIBA, A.G., Basle, Switzerland.—An unchanged gross dividend of 100 Swiss francs is being paid for 1965 on capital raised during that year by 20 million francs to 140 millions. Group turnover was almost 11 per cent. higher at 1,878 million francs, while sales of the parent company increased 8 per cent. to 664 million francs. Net profit rose from 36,900,000 francs to 39,100,000.

YARDLEY & CO., LTD.—Group profits for 1965 amounted to £2,061,496 (£2,048,012). Tax is estimated at £676,406 (£1,078,508) and after minority interests the net profit is £1,373,787 (£961,432). A total dividend of 24 per cent. (same) is declared with a third and final interim of 10 per cent. (In 1964 there was a 2½ per cent. capital distribution).

EUCRYL, LTD.—Group external net sales during 1965 rose from £1·73 millions to £2·39 millions and pre-tax profit from £262,224 in 1964 to £368,527. Tax, including 40 per cent, corporation tax, is estimated at £118,957 (£140,317) leaving net profits at £249,570 (£121,907). Capital reserve is allocated £1,243 (£41,770 to general reserve) and £38,054 (£50,508) is applied in writing down goodwill. A total dividend of 15 per cent. is proposed (against 12 per cent. in 1964) and also a one-for-four scrip issue.

JEYES GROUP, LTD.—The chairman (Mr. S. N. Steen) tells shareholders in his review with the annual accounts that over 20 per cent. of the group's profits are earned outside the United Kingdom. Royalty arrangements in overseas countries are developing and local production has been set up in Malaysia and Scandinavia by the group's licensees. At home sales of the Jeyes-Parazone retail division were lower than expected, but profits were "satisfactory." Three Hands made a valuable contribution to group profitability. [For accounts see *C. & D.*, March 5, p. 225.]

TIMOTHY WHITES & TAYLORS, LTD.—A final dividend of 5 per cent., to make 11 per cent. for the year ended January 15 (against the equivalent of 10⅔ per cent.) is recommended. Group pre-tax profits increased from £2,630,767 to £2,723,555, and after a reduced tax charge, the next profit is £1,746,555 (£1,136,017). There is a balance of £1,646,555 (£1,009,447). Corporation tax has been calculated at 35 per cent. Mr. G. I. Rushton, M.P.S., has relinquished his position as managing director as from April 1, but remains on the board as executive chairman. Mr. R. C. Gibb has been appointed managing director as from that date.

BUSINESS CHANGES

THE pharmacy of Dr. W. H. Coen, Northgate Street, Athlone, Eire, is closing down.

MURRAY & STUART have closed their branch at 224 King Street, Aberdeen, and transferred the business to 328 King Street.

B. V. HARRIS, LTD., High Street, Bembridge, Isle of Wight, has been acquired by Mrs. J. Steane, M.P.S. and Mr. Steane.

THE telephone number of Merck Sharp & Dohme, Ltd., Hoddesdon, is being changed to Hoddesdon 67123 on March 30.

MR. T. G. HUGHES, M.P.S., is closing down his pharmacy at Deiniolen, Caernarvon, on March 31, after being there for more than fifty-three years.

R. WESTON (CHEMISTS), LTD., have acquired the business of Mr. J. W. Sanderson, M.P.S., 12 High Street, Mansfield Woodhouse, Notts, as from April 1 and will be trading under their own name.

ALLIED CHEMICAL, S.A. (Swiss subsidiary of Allied Chemical Corporation, New York, U.S.A.) is shortly consolidating its marketing headquarters for Europe at 1 Place Madou, Brussels, 3, Belgium.

DREAMLAND ELECTRICAL APPLIANCES, LTD., are transferring their sales and other departments to premises adjacent their factory at Shipyard Estate, Hythe, Southampton, Hants (telephone: Hythe 3471), on March 28.

Appointments

BUTLER & CRISPE, LTD., 80 Clerkenwell Road, London, E.C.1, have appointed Mr. S. J. Collingwood sales representative for the area formerly covered by Mr. R. A. Smith, who has resigned.

ELI LILLY & CO., LTD., Basingstoke, Hants, have appointed Mr. B. R. Brooks, M.P.S., district manager, London (South-east). Mr. R. A. E. Muddiman, M.P.S., has taken over Mr. Brooks' former position as district manager, Reading (Western). Mr. W. V. Carvill, M.P.S.I. (representative, Dublin area), is being appointed district manager, Eire, as from April 1.

PERSONALITIES

MR. E. J. W. CUER, M.P.S., is to be Worthing's next mayor. A resident of the town for forty years, he has been a member of the town council for the past fourteen years. Councillor Cuer is managing director of W. Aston & Co., Ltd.

MR. M. J. SEWELL, M.P.S., J.P., was recently appointed chairman of the Sheffield No. 2 Hospital Management Committee for a second three-year term. Amongst other public appointments Mr. Sewell is chairman of the Sheffield Watch Committee and a member of the governing body of the Sheffield College of Technology. After twenty-five years in retail business, mainly in Sheffield, he now holds two part-time appointments as pharmaceutical adviser to the board of A. L. Simpkin & Co., Ltd., Sheffield and as Northern business consultant for Orridge & Co., Ltd.

MR. C. KEMP, M.P.S., 14 Blantyre Terrace, Edinburgh, who has been in the medical marketing division of the Crookes Laboratories, Ltd., for thirty-seven years, recently as their regional manager for Scotland and Northern Ireland, is retiring. He has been a medical representative for forty-two years, probably longer than any other man in Scotland. He served his apprenticeship with George Lunan, Queensferry Street, Edinburgh. Mr. Kemp was the son of a chemist, the late William Kemp. On his maternal side he had a great uncle who was a chemist before the Pharmacy Act of 1868—Mr. Archibald MacDonald of Munlochy, Ross-shire. He has been presented with a tape recorder by his colleagues and a transistor radio by the Crookes Laboratories who gave a lunch in his honour at their headquarters in Basingstoke, Hants. His colleagues have presented his wife with a marquesite brooch. Mr. Kemp's successor is Mr. A. S. Gunn, Kinnaird Castle, Brechin, Angus, who has been with the company for eight years.

UP FOR ELECTION

A NUMBER of pharmacists and others connected with the pharmaceutical industry are offering themselves as Parliamentary candidates in the general election on March 31. They include:—

BURNLEY, S., Haltemprice, *Liberal.* Pharmacist and optician.

CAMERON, LIEUT - COLONEL CHARLES, Western Isles. *Conservative.* Manager, Alginate Industries (Scotland), Ltd.

CARR, R., Mitcham. *Conservative.* Chairman, John Dale, Ltd.

GOODALL, R., Uxbridge, *Liberal.* Public relations officer, Glaxo Group, Ltd.

HARVEY, SIR ARTHUR VERE, Macclesfield. *Conservative.* Chairman, CIBA Companies in Great Britain.

JENKIN, P., Wanstead and Woodford. *Conservative.* Barrister, Distillers Co., Ltd.

LINSTEAD, SIR HUGH, O.B.E., Wandsworth and Putney. *Conservative.* Pharmacist.

McADDEN, SIR STEPHEN J., Southend East. *Conservative.* Director, Camden Chemical Co., Ltd.

SIMEONS, C., Luton. *Conservative.* Managing director, British Gelatine Works.

STEVENS, M., Dulwich. *Conservative.* Executive Assistant to Marketing Director, Rank Organisation, Ltd.

TAYLOR, SIR CHARLES, Eastbourne, *Conservative.* Joint managing director, Cow & Gate, Ltd.

ROYAL SOCIETY

Fellows elected on March 17

AMONG thirty-two new fellows elected to the Royal Society on March 17 were the following:—

PROFESSOR A. R. BATTERSBY, professor of organic chemistry, University of Liverpool, for contributions to the chemistry of alkaloids and especially extensive studies on the biosynthesis of these compounds.

DR. R. A. KEKWICK, reader in chemical biophysics and head of the department at the Lister Institute of Preventive Medicine, University of London, for work on plasma proteins, and the application of physicochemical methods to their study and large-scale purification.

DEATHS

COOPER. — On February 11, Mr. Leslie Charles Cooper, M.P.S., 47A Aldwick Road, Bognor Regis, Sussex. Mr. Cooper qualified in 1931.

OGDEN.—On March 4, Mr. Frank Raymond Ogden, M.P.S., 265 Featherstall Road North, Oldham, Lancs. Mr. Ogden qualified in 1918.

REDFERN. — On March 3, Mr. Robert Alfred Redfern, M.P.S., 28 Hollingworth Road, Petts Wood, Kent. Mr. Redfern qualified in 1961.

RITCHIE. — Recently, Mr. John Ritchie, M.P.S., High Street, Maryborough, Victoria, Australia. Mr. Ritchie qualified in 1906.

WIGGLESWORTH.—On March 16, Mr. James William Wigglesworth, M.P.S., founder and managing director of Wigglesworth, Ltd., Westhoughton, Bolton, Lancs. After qualifying in 1899 Mr. Wigglesworth, a native of Dewsbury, Yorks, spent a few years in retail management in London and Manchester. In 1907 he opened up on his own account in manufacturing and so founded the company that is today Wigglesworth, Ltd. He has remained managing director of the company throughout and has continued active in its affairs until deterioration in his health about eighteen months ago. From modest beginnings the company has grown to employ a staff of 250, distributing its products throughout the United Kingdom and in the Republic of Ireland through a separate branch factory established there in 1923. Mr. Wigglesworth was a founder member of the Chemist Supply Association which later became the Wholesale Drug Trade Association and in turn the Association of British Pharmaceutical Industries. He has been a trustee of the A.B.P.I. for many years. In local affairs his activities were many-sided. For long he was intimately associated with the management committee of Bolton Royal Infirmary. He became a governor of the Bolton School and a trustee of the Bolton Trustee Savings Bank. For the town and citizens of Bolton he had a great affection, and he made many charitable gifts and benefactions, including the provision of an open-air theatre in one of the town's parks, a conservatory in another; a chapel of meditation at Overdale crematorium and a portrait of Queen Elizabeth II by Devas, together with a mayoral jewel. His most recent benefaction consisted of providing floodlighting and fountains around the town hall. In November 1964 the county borough of Bolton honoured him by admitting him to its roll of Honorary Freemen.

ZERNIKE.—At Groningen, Hollard, on March 10, Professor Fritz Zernike, aged seventy-seven. A physicist, Zernike was responsible for many advan es in microscopy. Among other things his work made it possible to examine normal and healthy living cells under the microscope. His phase contrast microscope enables structure to be seen in colourless and transparent objects that differently refract light waves. He was a Nobel prize-winner and gained the Rumford medal of the Royal Society in 1952.

PHOTOGRAPHIC ACCESSORIES

A Place for Everything. — James Blackwood & Co., Ltd., 22 Baker's Row, London, E.C.1, supply a comprehensive range of storage units for holding 35-mm. or 2¼ x 2¼ in. negatives.

Mounts and Frames. — Whitewood photograph frames for hanging or standing (upright or oblong format) and wedding or portrait mounts of either slip-in or paste-on type are supplied by Arnott & Co. (Leeds), Ltd., 39 Holbeck Lane, Leeds, 11.

Brighter Packets. — Cleanright Tissues, 48 Newton Road, Torquay, Devon, have given their packet of fifty lens-cleaning tissues a "high-gloss deluxe" covering and are sending out the packets in a counter display carton. Customers' own designs may be printed at no extra cost.

Advice on Accessories.—Arrowtabs, Ltd., 1 Granville Mews, Cricklewood Lane, London, N.W.2, offer advice on stocking a photographic department with accessories. Special mention is made of the company's flash-gun with click stops for "bounce" flash or projector table, and 40 x 40 in. lenticular tripod screen.

Dry-mounting and Trimming. — Improved performance is claimed by Ademco, Ltd., High Wycombe, Bucks, for double- and single-coated dry mounting tissue and matt heat-sealing film. The company now offers a range of guillotines with safety guards to conform with recent legislation. Messrs. Ademco, Ltd., state that many inquiries continue to be addressed to premises they vacated eighteen months ago, and give a reminder that they are now at Lincoln Road, Cressex Estate, High Wycombe, Bucks.

With Trays.—In two new slide cases introduced by Paul Plus, Ltd., 29 King Street, Newcastle, Staffs, the slides are carried in trays holding thirty-six slides. Each tray may be removed (a feature claimed specially convenient for magazine loading projectors, as the trays are designed to fit into most popular types of magazines). The complete assembly is then inverted and the slides transferred from tray into the magazine. The "single" model has five trays, holding up to 180 slides, and the "double" version holds 360. Made of wood and lined with foam rubber, the cases are finished in two-tone grey vinyl.

Super-8 Projectors. — Luminos, Ltd., 1 Belsize Crescent, London, N.W.3, are distributors of the Noris Super-8 automatic and Noris Super-8 T (synchronised) projectors. The first has f/1·3 20-mm. lens, 12-volt 100-watt tungsten halide lamp and runs at 18 frames per second. An editing device (with cable release) is built in. Automatic light control regulates lighting current by film speed, thus preventing overheating of the film during editing. The T model has built-in unit for lip-synchronisation with a tape recorder. Both projectors take 400-ft. reels. Messrs. Luminos are also suppliers of the Baldessa 35-mm. cameras.

Slide Frames.—Rank Photographic, Woodger Road, London, W.12, have introduced Elektra slide mounts which are available for most formats. Each frame comprises two sections that lock together when light pressure is applied. One section is white to reflect heat from the slide projector lamp and the other dark grey to avoid reflections or light scatter between itself and the projector lens. In the case of the various 2 × 2 in. mounts pre-cleaned cover glasses are held in the slide frame halves by metal foil masks which "efficiently serve to avoid Newtons Rings."

Automatic Projector. — Recently introduced by Apparatus and Instrument Co., Ltd., 36 Grove Road, Hounslow, Middlesex, the Synclite 300 projector features a slide-changing system in which slides (in any form of mount) are stacked in a small polythene box, which is inverted over an aperture in the top of the projector housing. Pressure on a button (by remote control) changes the slide, the used slides dropping into a similar box below the projector. For rapid cooling the 300-watt screw-cap lamp is operated separately from the blower. Lens is 75-mm. f/2·5 Luminon-P, with triple condenser.

PHOTO PROCESSING AND SERVICES

Film Processing Arrangements.—3M Co., Ltd., 3M House, Wigmore Street, London, W.1, have complete arrangements for processing Ferrania black-and-white reversal movie film. Exposed film should be sent to department 408 of the company.

For Processing Tyros.—A booklet, "Developing, Printing, Enlarging" published by Kodak, Ltd., Kodak House, Kingsway, London, W.C.2, is specially helpful to young amateur photographers developing and printing their own films.

Vans Daily in North London. — Johnson Processing Laboratories, Ltd., specialise in finishing Kodacolor and Ektachrome films and are approved Agfa colour processors. Van deliveries are made daily in Greater London north of the Thames.

Rate for the Job.—Haagman Colour Laboratories, Ltd., 17 Endell Street, London, W.C.2, make colour prints from both negatives and transparencies and transparencies from negatives. They are able to process 2,400 3½ x 3½ in. prints an hour.

South Manchester Finisher. — A daily collection and delivery service for photofinishing is offered in the South Manchester area by Photographic Services (Manchester), Ltd., 38 Alexandra Road, Moss Side, Manchester, 16 (but no twenty-four hour service in peak period).

Colour Processing Only Now. — Templecolour Laboratories, Ltd., 131 Duckmoor Road, Ashton Gate, Bristol, 3, have discontinued black-and-white processing and "greatly increased" their colour processing capacity. A large area of the south-west is now served daily by motor-van.

Lens Reconditioning. — Among the facilities offered by Vanguard Instruments, Ltd., 233 High Street, Brentford, Middlesex, is a lens reconditioning and coating service. The company also provides a comprehensive repair service for photographic equipment and binoculars.

Now in the North-west. — H. B. Dorling, Ltd., Selinas Lane, Dagenham, Essex, wholesalers of films and photographic apparatus to chemists only, recently opened at Pollard Street East, Manchester, 10, a depôt to cover the north-west of England.

Fast Turn-round Service.—Daily collection and delivery and fastest service in London and the Home Counties for colour and black-and-white processing work is claimed to be offered by Photo Laboratories (London), Ltd., Tramway Path, London Road, Mitcham, Surrey, and 2 Wrentham Avenue, London, N.W.10.

Service for the South-west.—Evans Gadd & Co., Ltd., Smythen Street, Exeter, Devon and 24 Stentaway Road, Plymstock, Plymouth, Devon, offer a wholesale service in photographic apparatus and chemicals and binoculars in the south-west of England. A night-and-day telephone order service helps prompt delivery.

Repair Service for Overseas Visitors. —Leicester Camera Repair Service, 166 Westcotes Drive, Leicester, are offering from April 1 a special fast turn-round of emergency repairs for visitors to this country who have accidents with their apparatus. A telephone call to the company at Leicester 857771 sets the operation in motion.

Service and Supplies.—This year, as in the past, A. Wainwright, Rosedale Works, Wakefield Road, Barnsley, are giving service in black and white printing and colour processing. They are also wholesalers of wedding albums, mounts, folders, dry-mounting tissue, Flashcubes, flashbulbs, and projection lamps.

Processing Facilities Doubled. — A large extension to the processing laboratories of Scottish Colorfoto, 136 Main Street, Alexandria, Loch Lomond, Dumbartons, nearly doubling their size, is expected to be in operation by Easter. Colour enlargements 5 x 7 in. and 8 x 10 in. are among the new services being offered.

Speeding-up service.—Fencolor Laboratory, Ltd., 75A Abbey Road, Cambridge, report that they are now using a new type of positive film in their transparency-from-negative service. The new film is described as being of a universal type that gives good results with all makes of film and to have made possible a considerable increase in speed of delivery for the service. Transparencies (made in 35-mm. size only) cost 2s. each from 35-mm. originals and 4s. each from larger formats. Other services offered by Messrs. Fencolor include production of 35-mm. transparencies (price 6s. each) from colour prints and the making of a strip print from 35-mm. films at time of processing for both full-frame and half-frame negatives. Cost of processing and strip printing: twelve exposures 9s. 9d., twenty exposures 12s. 6d., thirty-six exposures 18s. 6d.

TRADE NOTES

South London Depôt.—The new Brooks & Warburton branch of Sangers, Ltd., at 156 Ilderton Road, Bermondsey (see *C. & D.*, March 19, p. 270) carries a large range of "ethicals," drugs, galenicals and N.H.S. Drug Tariff sundries.

Sole U.K. Agents. — Gorney, Ltd., Cross Bath Road, Bramley, Leeds, 13, have been appointed sole United Kingdom agents for Johann Maria Farina gegenueber dem Juelichs - Platz, Cologne, West Germany, the original makers of Farina Red Crest eau de Cologne.

All Records Beaten.—Greenhill & Ellis (Optical), Ltd., Ling House, Dominion Street, London, E.C.2, report that sales of their Greenkat binoculars have beaten all records during the past year. They anticipate even greater success in 1966 and invite inquiries for their 1966 catalogue.

Adjustable Fittings. — E-plan unit shopfittings of Eustace and Partners, Ltd., Western Avenue, London, W.3, are easily erected and interchanged. A free merchandising and planning service is offered by the company and credit, rental or hire-purchase facilities are available.

New Binocular Range. — Swift-set binoculars "for the customer who requires a connoisseur's glass at a price he can afford" are offered by Pyser Britax (Swift), Ltd., Fircroft Way, Edenbridge, Kent. The binoculars combine an "easy to hold" shape with the ability to focus to twelve ft. for close-up work. Three models are in the range.

Change of Product Name. — To avoid possible confusion between their trade mark Triptafen and the amino acid tryptophan (in some hospitals tryptophan is being used in conjunction with monoamine oxidase inhibitors and if Triptafen were prescribed by mistake along with an MAO inhibitor it could have possible ill-effects), Allen & Hanburys, Ltd., Bethnal Green, London, E.2, have decided to change their registered mark to Triptafen-DA (for depression and anxiety) on March 28. From that date all new stocks supplied from the company's warehouse will be labelled Triptafen-DA. Formula and appearance are unchanged. Stocks currently with wholesalers and retailers and labelled Triptafen may be supplied against prescriptions for Triptafen-DA. Triptafen-forte is unchanged in title and formula.

Bonus Offers

AYRTON, SAUNDERS & CO., LTD., Liverpool, Prestatyn and Dublin. Ayrtons burn cream. 15 doz. invoiced as 12 doz. Till April 30.

INTERNATIONAL CHEMICAL CO., LTD., 12 Chenies Street, London, W.C.1. Ban-O-Dor deodorant. Fifteen invoiced as twelve.

PHARMACEUTICAL SPECIALITIES (MAY & BAKER), LTD., Dagenham, Essex. Anthical and Anthisan creams, each in tube of 25 gm. and Avomine tablets in tin of ten. Ten invoiced as nine. From April 1 to August 31.

NEW PRODUCTS AND PACKS

PHARMACEUTICAL SPECIALITIES

By Post to the Patient.—Pharmethicals (London), Ltd., Victoria Way, Burgess Hill, Sussex, are issuing Biloptin capsules in a new pack designed for the convenience of posting to patients.

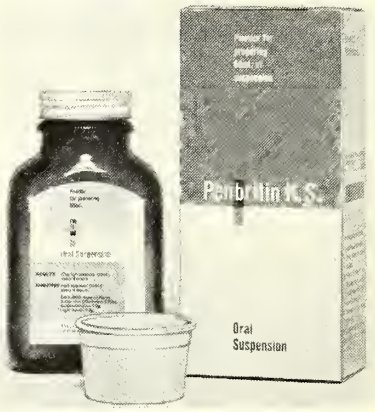
The flap bearing the product name is easily torn off revealing an address panel. Pre-examination diet sheets are included; they need to be completed by the radiographer in respect of time of taking the capsules and the patient's attendance at the hospital.

Lymecycline with Vitamins.—Armour Pharmaceutical Co., Ltd., Hampden Park, Eastbourne, Sussex, have launched a new speciality, Armyl intramuscular injection, in which an antibiotic is associated with vitamins C and B. The pack contains a vial and an ampoule. In the vial is a solution composed of 135 mgm. of lymecycline (equivalent to 100 mgm. of tetracycline base), 150 mgm. of ascorbic acid, 75 mgm. of nicotinamide, and 75 mgm. of magnesium ascorbate. The diluent ampoule contains 40 mgm. of procaine hydrochloride, and water for injection to 3 mils.

A Wallet-style Pack. — Metrulen-M progestational agent becomes available from April 1 in a 21-tablet wallet-style pack. All orders from that date are being supplied to wholesalers by the manufacturers, G. D. Searle & Co., Ltd., Lane End Road, High Wycombe, Bucks, in the new pack. The trade price is unchanged and Messrs. Searle expect existing stocks of bottles of 20 to be used in the normal course of dispensing, requiring none to be returned for credit. The bottles of 50 and 250 continue to be available for dispensing.

"Unique" Antirheumatic Agent.—Boots Pure Drug Co., Ltd., Station Street, Nottingham, have introduced a new speciality Dytransin, described as a new and chemically unique antirheumatic agent. The product is the outcome of a research programme carried out in the company's laboratories over the past twelve years and directed at discovering and developing an antirheumatic agent to overcome disadvantages in existing therapies, in Dytransin the aim is claimed to have been largely achieved. The compound has been given by the British Pharmacopœia Commission the approved name ibufenac. It is available as powder-blue opaque/dark-grey opaque capsules, each containing 250 mgm. of the compound. Dytransin is understood to have shown in clinical trials high analgesic, anti-inflammatory and antipyretic activities (the three main requirements of an antirheumatic drug). It has the claimed advantage of being free from many of the side effects that limit the use of existing drugs, and is indicated for the treatment of both acute and chronic rheumatoid arthritis and other forms of chronic rheumatic diseases. Its only significant toxic effect is encountered when jaundice is present and that, in the clinical trials, occurred in less than 1 per cent. of the patients treated. In patients with a history of liver disease it is essential for liver function to be assessed before treatment, and all patients receiving Dytransin must be under regular medical supervision. Routine liver function tests are recommended to be carried out once a month during the period of treatment. Dytransin is directed by the manufacturers to be supplied only on prescription.

Ampicillin with Sulphonamide.—Beecham Research Laboratories, Great West Road, Brentford, Middlesex, have introduced a new speciality Penbritin KS for the treatment of bacterial infections of the intestinal tract (bacterial diarrhœas, bacillary dysentery, etc.). Penbritin KS combines ampicillin broad-spectrum antibiotic with sulphadimidine and light kaolin. It is described as operating in three ways: (a) by providing antibacterial concentra-



tion in the wall of the intestine; (b) by eliminating bacteria in the lumen of the gut; (c) by consolidating stools, adsorbing toxins and exerting a demulcent effect on inflamed mucosa. The combination of the antibiotic and the sulphonamide is designed to give the broadest antibacterial coverage of available preparations and, with the inclusion of kaolin to provide a new concept of control (simultaneously in the wall of the intestine and in the lumen of the gut). Penbritin KS is supplied as a powder for preparing 60 mils of a pleasantly flavoured suspension. Each bottle contains sufficient material for a full (one-day) course of treatment. In each pack is a dosage measure.

COSMETICS AND TOILETRIES

Hair Spray in Range. — The consumer products division of Cyanamid of Gt. Britain, Ltd., Bush House, London, W.C.2, have added a Miss Breck hair spray to their Breck range of hair products.

Correspondence

Letters when received must bear the name and address of the sender, not necessarily for publication. The Editor does not hold himself responsible for the views expressed.

In Grocers' Shops First

SIR,—I apologise for striking a jarring note in referring to the Vitapointe supplement published in the *C. & D.* last week. One tit-bit which Messrs. Vitapointe did not mention among the orgies of managerial self-congratulation, pontifical puffs, pæans of praise, and pious promotional platitudes, was that the Vitapointe display stands were on the grocers' counters in our area before we had even seen the range.

R. J. HAYHURST,
Nelson, Lancs

Back to the Bad Old Days?

SIR,—What a marvellous new system of payment for N.H.S. scripts. Is the Chemist Contractors Committee trying to make things more complicated for us again? It appears that, instead of getting full payment on the twentieth of the month, we shall get 80 per cent. on the first, plus the backlog that would normally have been paid on the previous twentieth of the month. It's back to the bad old days of part payment. If the Committee wanted to do something useful, it could have pressed for an overall improvement in the time lag of pricing generally. S. F. BROWN,
Tonbridge, Kent

Ingredients for Galenicals

SIR,—With reference to the difficulties in supply of the ingredients needed to manufacture galenicals in the pharmacy, to which attention was drawn by your contributor "Xrayser" on March 5 and 12, we do not see why he should have had this experience, since there are several firms, such as our own, which are only too anxious to supply crude botanical materials from stock, and others dealing in liquid extracts and tinctures in a similar way. It seems to us that the trouble stems from pharmacists dealing with wholesale sundriesmen instead of the right people who, we are sure, would give prompt and satisfactory service.

GORDON SHILLITOE,
P. A. ARNOLD & SON,
Morden, Surrey

Dispensing by Doctors

SIR, — Yet another doctors' group scheme (this time in London) is planning to supply its patients with medicine. When will our Council wake up to the fact that the doctors are methodically filching our livelihood? I am appalled that the previous schemes were not condemned publicly by the Society for their substandard and unqualified dispensing. A stand should be made at once, before it is too late, to insist that *all* dispensing is confined to those qualified to do it.

C. R. THEWLIS,
Middlesbrough

SIR,—I endorse most heartily the sentiments of Mr. A. J. Adams (*C. & D.*, March 12, p. 259) regarding doctors' dispensing in so-called rural areas. Many such areas consist of built-up outskirts of towns which have three or four pharmacies doing in total less than half the dispensing that should rightfully be theirs. Because this only affects, at present, a minority of pharmacists the principle involved has been shamefully neglected, but the weakness of our professional standing is plain to see. In this weeks' daily papers there have been reports of the General Practitioners Association scheme for a family-care service with monthly subscriptions and fees for visits, these payments to include the supply of drugs by the doctors. We should take immediate steps to safeguard the public from the menace of unskilled people, under the nominal control of the G.P., dispensing the potent drugs of today. It should be made compulsory for all dispensing to be carried out under the control of a pharmacist—the only person who is trained for this task. J. E. JEFFERY,
Southampton

Co-operation with Pharmacists

SIR,—I am sure most of your readers will be interested in seeing the contents of the enclosed letter which was recently received by our company, and also our reply. Rexall, and an ever dwindling number of companies who not only restrict the sale of their products to chemists, but also spend a considerable percentage of their sales pound in promoting sales, not only refrain from seeking "outside" business but frequently turn down business offered to them by non-chemist retailers. We believe this is a true measure of support. In return, we hope that more and more of our chemist friends will measure their support in a similar meaningful manner; by placing more substantial orders with the companies who support them, and by actively selling their products.

THE LETTER

WE wish to bring to your notice the formation of Superdrug Stores, Ltd. These stores will be on a self-service and self-selection basis, situated in first-class High Street positions in South London.

THE REPLY

THANK you for your inquiry requesting our representative to call upon you in order that you may place an opening order for our products. Unfortunately this will not be possible, as Rexall products are restricted in distribution to "chemists only."

W. R. CLARKE, *Managing Director*,
REXALL DRUG CO.,
Nottingham

Unused Medicines

SIR,—Following my request at the Council meeting (*C. & D.*, March 12, p. 256) that publicity be given to the coming campaign of the Royal Society for the Prevention of Accidents for the return of unused medicines to the pharmacy, it now seems unlikely that many pharmacists will be unaware of the campaign! Xrayser (p. 267) has underlined what I considered to be the important point, namely, that if we, as opposed to the non-pharmacist, claim to be the persons responsible by training and experience, to handle the manufacture, sale and supply of drugs and medicines, we must also accept the responsibility for advising on the disposal of such medicines when they become a danger in the home. Like it or not, there are other bodies (RoSPA, the Consumer Council, etc.) that are taking an ever-increasing interest in matters that we may consider to be solely within the province of the pharmacist. I consider it helpful (not least to the general public) that the Pharmaceutical Society has been asked to send a representative to the national home safety committee of RoSPA (*C. & D.*, March 12, p. 264) with the result that we now have advance information about their "doings," and indeed, in company with a representative of the Ministry of Health were consulted in advance about the literature for the coming campaign. Personally I feel such co-operation—new in the history of pharmacy—to be a step in the right direction. While certainly looking forward to a directive from the Ministry on the subject, the Council has a duty to its members to acquaint them of the facts in advance of any campaign by an outside body.

ESTELLE J. M. LEIGH,
Aughton, Lancs

Label Fixing

SIR, — The advice offered by Mr. Catley of Bayer Products on methods of affixing labels to plastic packs is most lucid, but for one omission — would it be too provocative to ask—where? Another slightly related matter occurs to me, and that is the size of wording on some manufacturers' products. I realise that my eyesight does not improve with age, but at my present tally of years a Sherlock Holmes magnifier should not be needed. The product that comes readily to mind is Allegron, on which the label could easily, for comfort, be three times its present size.—D. I. TUDDENHAM,
Bath, Somerset

SIR, — In reply to Mr. Catley of Bayer re labelling of plastic packs (*C. & D.*, March 19, p. 284), can he give me one reason why the pharmacist should be the person to correct the error made by his and other companies? Why should the pharmacist take one of the steps he suggests to correct a fault in presentation? Surely the manufacturer should be the person to present products in suitable containers, not the pharmacist to have to adapt them before selling. I will give Messrs. Bayer the credit that they have left a space for shop-addressed labels, which is more than B.D.H. have done on Sea legs, but the suggestion that we should use Friars balsam or Sellotape, etc., to overcome manufacturers' negligence and refusal to correct their errors in presentation deserves only one treatment, namely, refusal to take the products into stock. After all, there are manufacturers who are not so selfish and who do present their products in a pharmaceutically elegant way.

B. HOLMES,
Old Coulsdon, Surrey

The CHEMIST AND DRUGGIST

For Retailer, Wholesaler and Manufacturer

ESTABLISHED 1859

Published weekly at
28 Essex Street, Strand, London, W.C.2

TELEPHONE: CENTRAL 6565

Seeds of Progress

WHETHER or not the sales of seeds of species of *Ipomœa* were a genuine danger to the community or merely an over-publicised isolated report based rather on conjecture or hearsay than real evidence, one feature of the incident should give satisfaction to pharmacists. That is that the Pharmaceutical Society has been at the forefront of the discussions that have taken place, and the statements that have been made public. The Society has been accepted throughout the affair as the proper organisation to deal with and to investigate both the reports and the seeds. It would thus appear that at last some recognition is being given to the fact that pharmacists alone receive training to deal with such matters. Another outcome has been the opportunity provided to the Society —and taken— to remind those in authority of the need for new and more effective legislation for the control of medicines and poisons.

New Opportunities in Photography

So many aspects has the subject of photography that, in one form or another, it has different appeals to a diverse variety of people—from the technically minded scientist to the old lady on a coach tour. Profitably for the dealer, moreover, the technically minded person (like the professional photographer) is often the dealist never quite satisfied with his results and experimenting with methods of improving them.

To help such an enthusiast in his search for perfection is the motivation for much of the research by the large photographic companies. In due course, however, improvements made at that relatively exalted level get adapted to the needs of the old lady in the coach, and camera-users at all intermediate levels, making photography a much simpler and more satisfying hobby for all.

Since the last special photographic issue of THE CHEMIST AND DRUGGIST about twelve months ago, three notable innovations have been made. By making photography simpler, they should increase considerably the size of the photographic market, and in doing so provide the chemist with a chance to share in the general increase of turnover. First of the advances referred to is embodied in the new systems of cine (or "movie" in American parlance and that of one of our contributors) photography—Super-8 and Single-8. By reducing the operation of loading a film to the simple dropping of a cartridge into the camera, and eliminating the need to turn the film over half way through its run, they should do much to help tap the estimated 98 per cent. of the total market for cine not yet captured. The chemist will need to do his part if he is to obtain a reasonable share of that market. He would do well to heed the advice on "selling cine" given on another page.

Another simplification that has come about comparatively recently is the increasing automation of exposure control. The history of, and some of the technicalities behind, such automation are outlined in another of the special articles, that on electronic shutters. Another, also on shutters, deals with the electronically controlled shutter of the Polaroid 101, 103 and 104 cameras—all three models introduced within the past twelve months. The new low-priced Swinger camera of Messrs. Polaroid, shortly to be introduced and, it is understood, a forthcoming reduction in price of the film-pack promise to make that system of photography greatly more popular with snapshotters. Here again chemists will need to be on the ball if they are to make the most of their opportunities.

Third introduction since March 1965 has been the Flashcube which, with a suitable camera, can fire up to four flash-shots in four seconds. Guns have been produced for use with the Flashcube, all (so far as is known to us) requiring the cube to be turned manually after each shot, slowing down to that extent the speed of operation. A description of the Flashcube and its manufacture are also given in this issue.

Just as photography appeals to many type of person as a suitable hobby to take up, so it offers opportunities to chemists in many different types of business, from the man who prefers to carry on a completely independent photographic trade with a separate shop, leaving an employed pharmacist to look after his pharmacy, to the pharmacist whose prime interest remains his professional work, and who restricts photography to the sale of films and the taking-in of exposed material for processing. To smooth the path of those whose customers prove less than successful with their colour photography we publish an article by an expert processor giving advice on common faults and difficulties. A final article on changing the focal length of a camera lens gives scope for those who aspire to widen, and to experiment in, their photographic activities.

A PHARMACIST'S ANTHOLOGY

TWO SIDES TO A BARGAIN

From "The Magic of a Line" (Autobiography of Laura Knight)

BIG Grandma, wearing her seal-skin coat and a bonnet tied under her chin into a large bow, led me across the market place, in and out between dozens and dozens of stalls that sold everything anyone could possibly want—to the chemist's shop on the Long Row. There, while we waited to be served, in marched a small dirty child. "A 'apporth of Spanish-juice," she demanded. "We don't sell any 'apporths of Spanish-juice in this shop," she was told. "What do you mean by refusing to serve any customer?" reproved the shop owner, a Quaker, wearing a black skull cap over his bald head; and telling his assistant to fetch a ladder, the boss himself climbed to a top shelf and there reaching for a jar, brought it down to the counter to carefully weigh out the 'apporth of Spanish-juice (long black sticks of liquorice). He then wrapped it neatly in white paper, sealed both ends with red wax, lifted the counter flap, went on to the floor and presented it to the child himself. "Call that a 'apporth, does yer?" asked she as, throwing it down, she turned and ran out.

Onward from Galen

SIDELINES OF CURRENT COMMENT

★ A HISTORY OF GLASSWARE ★

THOUGH a great deal has been written on the use of ceramics in pharmacy, containers fashioned from glass have perhaps received less than their fair share of attention. For those who would like to know a little more about the origins of glassware a new 24-p. booklet "From Sand-core to Automation: A history of glass containers" by Victor Wyatt, issued by the Glass Manufacturers' Federation, is a mine of information. Man-made glass, the booklet recalls, was discovered somewhere in the Eastern Mediterranean some time before 3,000 B.C. Earliest glass furnace so far discovered (ascribed to about 1350 B.C.) was excavated at Tell el Amarna in 1891. The "sand-core" of the booklets title refers to the method of making the small bottles that began to appear in the fifteenth century B.C., apparently as luxury containers for ointments, perfumes and cosmetics. A core of sand or clay was attached to the end of a metal rod and then coated with molten glass. The vessel was then made smooth by continued reheating, and rolling on a flat surface. Glass blowing probably originated in Syria, and it was not long before wood or clay moulds were developed. Production on a commercial scale enabled wines, oils and medicines, as well as perfumes and cosmetics, to be transported and stored in glass bottles and jars. Glass is assumed to have been first manufactured in Britain during the Roman occupation, and a number of glass furnaces have been excavated. However, its first real impetus seems to have come from immigrant glass makers in the thirteenth century—a deed of 1226 refers to the grant to Laurence Vitrearius of land near Chiddingfold in Surrey, and the area remained predominant in glass making until the sixteenth century. Glass making appears to have had a stormy passage in Britain for the booklet tells of an "age of monopolies" (not the present day) that resulted from the application of coal to glass furnaces. The Worshipful Company of Glass Sellers, which received a charter in 1664, later encouraged the development of full lead crystal glass. An excise duty on glass, first imposed in 1695, was not finally ended until 1845. In the mid-eighteenth century two glass works, still in existence today, were established —forerunners of one part of the United Glass group and of Beatson, Clark & Co., Ltd. In mediaeval England medicine bottles were made by the makers of window glass, the first tapering bottles evolving into the later straight-sided cylinder. Commercial packs began to appear in the late eighteenth century and they soon became familiar: "Though the ingredients might vary (unknown to the customer), the shape of the containers did not, so that they were easily recognisable." Much more information is available to the reader in this brief, but interesting, history, including the evolution of wine, beer, soft drink and milk bottles, glass containers for perfumery and cosmetics, and the influence of the machine age on the industry. Copies of the booklet are obtainable free of charge from the Glass Manufacturers' Federation, 19 Portland Place, London, W.1.

★ KEEPING A TAB ON TECHNOLOGY ★

AS another step towards the creation of the National Reference Library of Science and Invention, the Patent Office Library is being united with the British Museum on April 1. For the time being, however, the Library is situated within the Patent Office at 25 Southampton Buildings, Chancery Lane, W.C.2, and under the rotunda of that building from March 14 to March 19 an exhibition dealing with the work of the Patent Office Library was open to the public. The library is Britain's main technical open-access reference library freely available to the public and the major British reference library for the physical sciences and for engineering and industrial technologies. Founded in 1855—it was opened on March 5 of that year —it owes its existence largely to the advocacy of the Prince Consort. Today the library has around fourteen miles of shelving and handles every week over 7,000 new items (books, periodicals, pamphlets and patent specifications). The endeavour is made to take in every technical periodical in the English language and to gather literature from world-wide sources. Much of the literature is obtained by purchase, but some is received by way of donations and exchange facilites. Special files enable frequent checks to be taken to isolate overdue periodicals, and 9,500 order receipt cards and about 500 letters are sent each month hastening such issues. As is pointed out at the exhibition, only by constant vigilance can sets of periodicals be kept complete, since issues soon go out of print. Many donations to the Library arrive without warning or explanation. They are nevertheless welcome and are appropriately arranged with the current stock of more than 400,000 bound volumes of scientific and teehnical periodicals and British and overseas patent literature. Such literature forms but a quarter of the library's stock, nevertheless the patent files comprise the most important section of the library. It is possible to search for patents in a number of ways (by serial number, application number, name of inventor or subject of patent). The Patent Office Library also provides the only comprehensive collection of foreign patents publications in the United Kingdom. Its present site being so readily accessible, many would feel regret if, at some future date, it were moved to a new location at any great distance away.

Drug Share Movements

SOME GOOD RISES

AGAINST the general industrial equity market background of diminishing interest by operators and an easier trend of prices, some good rises were recorded in pharmaceutical company shares during the past quarter. Dominant influence on the market at the moment is the General Election. But, as one leading firm of London stockbrokers commented: "Unlike 1964, the pre-election campaign will be mercifully short, and for this at least we should be grateful, particularly as sterling is coming under pressure once again."

A statement put out by Aspro-Nicholas on their anticipated profits pleased the market and buying of the shares lifted the price to 22s. 6d.—a rise of 2s. 9d. Barclay & Sons were in moderate demand and, after changing hands at 4s. 4½d., were finally three half pence up on balance at 4s. 3d.

Stevenson & Howell were bought at 16s. 3d. and held their price to give them a rise of 1s. 3d., while Jaynox jumped one shilling to 9s. 3d.

Though the directors of Macarthys Pharmaceuticals warned that their higher declared dividend was for tax reasons, the market took a good deal of notice of the report that pre-tax profit amounted to £103,000 against £83,000, and buying of the shares hoisted the price 2s. to 22s. 3d., up to which point they were dealt in. Boots Pure Drugs were a few pence firmer at 18s.

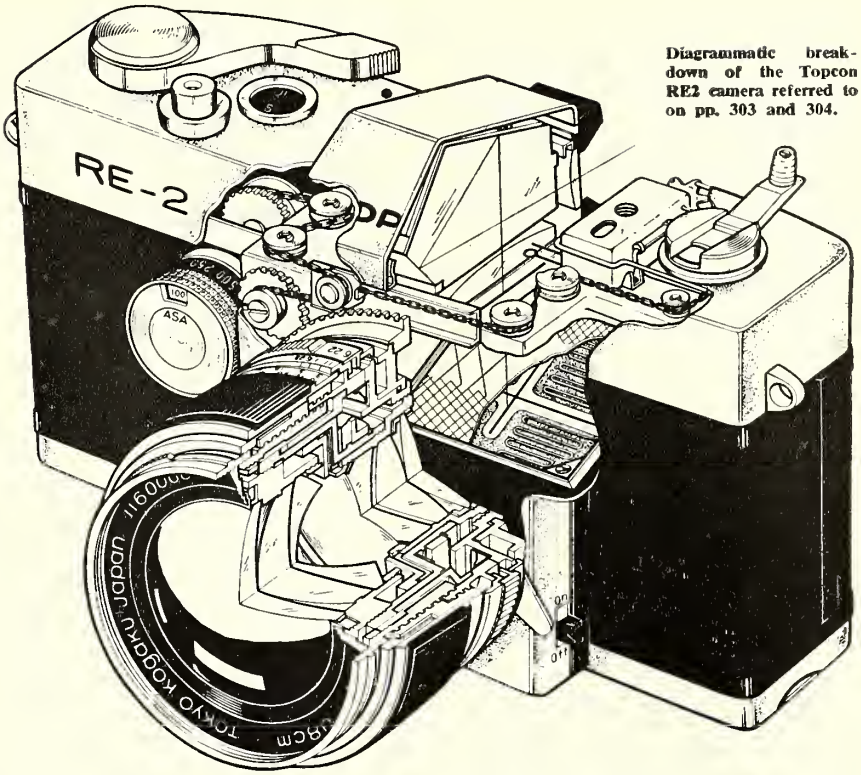
On the other hand the results for the year ended January 15 by Timothy Whites & Taylors disappointed the market. The fractional increase in the dividend was less than expected and selling of the shares in a one-way market lowered the price 10½d. to 12s. 3d. Similarly B.D.H. were a dull market, the shares declining by 1s. 9d. to 20s. 9d.

The unchanged dividend announced by Unilever, and the pressure on margins reported by the board, brought in sellers of the stock and, with buyers lacking, the shares ended the period threepence lower on balance at 30s. after being up to around 31s. Vitamins were a dull spot, losing 4½d. more to 7s. 9d., at which price there was a transaction in them. Smith & Nephew held at 10s. 6d.

In the cosmetic section Gala met with a fair demand and, with dealers short of shares to offer the price responded with a jump of ninepence to 25s. 9d. Eucryl were firm, with a jump of 1s. 1½d. to 12s. 7½d., and shares changed hands up to 12s. 9d. Against the trend Yardley A came on offer and, with fresh support absent, the price declined 7½d. to 16s. 9d.

A C. & D.
ANNUAL
SUPPLEMENT

PHOTO '66



Diagrammatic breakdown of the Topcon RE2 camera referred to on pp. 303 and 304.

Built-in Exposure Meter

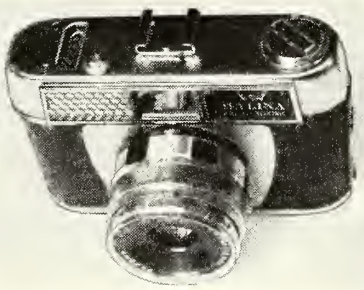
WHAT CAN IT MEAN?

ARTHUR PALMER

WHEN the catalogue description of a camera contains the bald statement "built-in exposure meter" it probably means just that and no more; that a meter has been enclosed in the casing to relieve the user of having to carry one as a separate item. Cameras with built-in meters have been with us since pre-war days—in the Contax III and the old twin-lens Contaflex, both by Zeiss Ikon.

Nowadays one has to delve a little more deeply into specifications to find whether the built-in meter is or is not coupled in some way with the shutter or diaphragm, and if it is, whether control is fully automatic or only semi-automatic. To point out that the term automatic is sometimes used slackly is not to impute deliberate intention to deceive. The first cameras in which meter and exposure controls were linked were hailed as "automatic." Subsequent developments went further into automation and necessitated a modification of nomenclature. The earlier models were then more accurately described as "semi-automatic" or "meter-coupled." But the term "automatic" still persists in situations in which it is not strictly accurate.

War interrupted the manufacture of amateur cameras and, when production was resumed, meter manufacturers developed miniature instruments eminently suitable for building into 35-mm. cameras. Meters then began to replace rangefinders in some models.

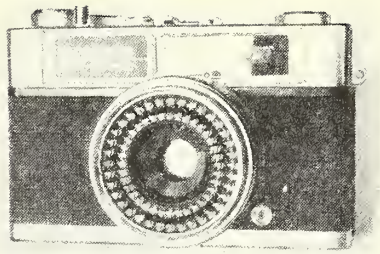


Modestly priced camera with built-in uncoupled exposure meter.

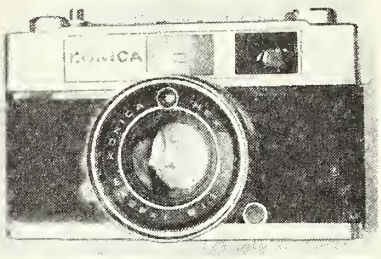
It cannot be said that those tiny meters were distinguished for their accuracy or sensitivity but, like the proverbial half-loaf, they were better than none at all. Because the meter was there, on his camera, the owner tended to use it with a resultant improvement in the consistency of his exposures. By the mid 1950's a dozen or so models of camera were available with a built-in meter of that type.

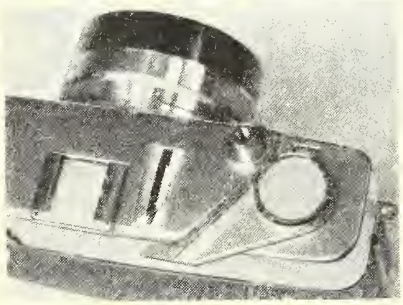
The Eastman Kodak Co. had already produced in 1938 a camera, the Kodak Super 620, which had fully automatic photo-electric exposure control, but it was never imported into Britain, nor does it appear to have survived for long in the land of its birth—probably owing to the exigencies of war. At the Photokina exhibition in Cologne, Germany, in the autumn of 1956, Agfa, A.G., caused a sensation with their Automatic 66, a 6 x 6 cm. roll-film camera with fully automated exposure control achieved by a pneumatic link between meter and diaphragm. The camera was shown at the London Photo Fair in the following year, but the only example brought over was promptly stolen—and that was about the last that was seen or heard of the camera, which appears never to have reached the market in any numbers.

One of the factors that paved the way for the automation of exposure control was the introduction in 1954 of the "LK" (*licht kuppelt*) shutter. The two principal shutter manufacturers, Deckel (Compur) and Gauthier (Prontor) rationalised the speeds of their shutters to follow a geometric progression 1, ½, ¼, ⅛, 1/15, 1/30 . . . instead of the old 1/10, 1/25, 1/50. . . . Thus the exposure intervals followed the same progression as the aperture values. For example, f/5·6 has half the light-passing value of f/4 and twice



Camera with annular selenium cell concentric with lens.





A sister model with cadmium sulphide cell in lens mount and (below) top-plate showing scale. (Distributed by Pullin Photographic, Ltd.)

that of f/8. The method allowed shutter speed and iris setting rings to be coupled so that altering one brought about a compensating change of the other so as to maintain a constant "dosage" of light, originally termed an "LV" (light value) but subsequently and more accurately designated the "EV" (exposure value). EV figures are engraved on the scales of many exposure meters today.

Late in 1957 Messrs. Agfa introduced on the market the first meter-coupled camera to achieve any success. It was the Silette SL, a 35-mm. instrument in which a meter powered by a selenium photocell was coupled to a Prontor-SLK shutter. After the film-speed setting had been made, a shutter speed was selected, and with the shutter/diaphragm coupling disengaged the iris control was adjusted until a marker seen in a window in the top plate of the camera registered with the meter needle. There were no calibrations on the arc over which the needle swung. When the marker and needle coincided the coupling was re-engaged, and for that reading any combination of shutter speed and diaphragm within the range allowed by the lighting conditions and the film speed could be selected by a single adjustment—either of shutter or diaphragm. Of course it was necessary to align marker and needle for any change of lighting condition.

Understandably the camera was dubbed "automatic," though probably not by the manufacturers, who no doubt were already working on more advanced systems. But the term was used by the public and the trade, and thus contributed to the present confusion in terminology. Cameras like the Silette SL are more correctly described today as "coupled-meter," "semi-automatic" or "follow pointer" types.

As the meter of the Silette SL was on top, the camera had to be held somewhere below shoulder level while readings and adjustments were made, inviting a tilt of the camera, which would bring too much sky into the field of the meter, causing it to indicate a setting that would lead to under-exposure. There can be no doubt that the Silette SL marked a step forward in camera design and it did in fact prove a trend-setter.

Other manufacturers took up the idea, and there appeared a multiplicity of variations on a theme. Needle and marker or reflected images of them appeared in the view-finder to facilitate adjustment of shutter and/or iris without having to take the camera from the eye. Annular photocells were used to surround the lens so as to enable the semi-automatic control system to be used with a filter in position (so long, of course, as it covered the cell), its multiplication factor automatically being taken into account.

For most types of subject that interest amateurs those systems worked well. The exceptions were back-lit subjects and those in which there was a preponderance of light or dark tone—conditions requiring special attention when an independent meter is used. It was still possible to take close-up or substitute readings, as is done with separate meters to overcome the shortcomings of all integrating meters.

Fully Automatic Cameras

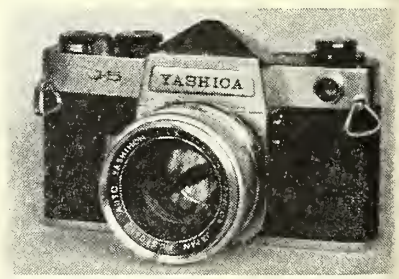
Useful as semi-automatic cameras proved to be, the calibrated scales still worried potential users, who fought shy of them—quite irrationally, since many of the same people habitually handled equipment calling for manipulations no less—probably more—difficult. So the designers carried development further to evolve the fully automatic camera in which the meter system actually set the exposure controls.

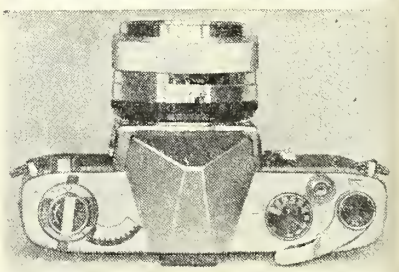
First in the field again were Messrs. Agfa, who in January 1960 announced the Optima, a "point-and-shoot" 35-mm. camera. Here the meter movement presets the controls to allow an exposure to be made at the highest shutter speed possible relative to the speed of the film in use and the strength of the prevailing light. Shutter speeds and aperture values ceased to concern the user in daylight photography, though for flash exposures a simple adjustment had to be made. To make that adjustment the shutter speed was set to 1/30 sec., which uncovered the flash lead socket and unlocked the aperture-setting ring. But for daylight operation the user merely had to point his camera at the subject and frame it in the view-finder. Then the initial pressure on the shutter lever caused a coloured disc to appear in the finder. Green indicated that the lighting was adequate and that exposure could proceed. Further pressure on the lever made the exposure. If, however, the lighting conditions were not bright enough for a satisfactory exposure a red signal warned of the futility of proceeding. Again the idea was taken up by other manufacturers, and a variety of fully automatic cameras made their appearance, largely through the co-operation of the shutter manufacturers, who modified the coupling mechanisms to camera designers' specific requirements.

Automatic Shutters

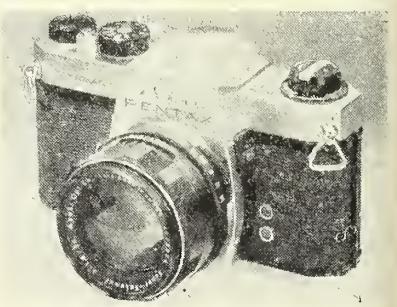
Automatic shutters may be divided into two broad types: the simpler, in which the shutter speed is set by the film speed setting, the diaphragm being adjusted by the meter movement, and the more sophisticated "programmed" shutters.

In the programmed type the highest possible shutter speed consistent with the demands of the speed of the film in use and the strength of the prevailing light is automatically selected. The operator may not have any idea of the shutter speed or the aperture at which he is shooting. In some models the data are indicated in the view-finder, but in a completely programmed shutter there is no provision for deciding on the value of either. In some, a limited

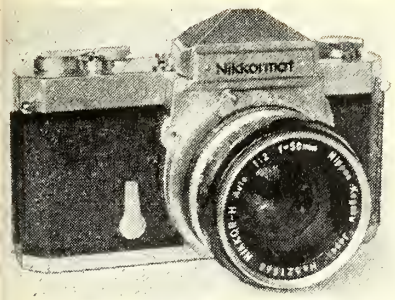




This camera has the cadmium photocell just below the rewind knob. A view of the top plate shows the scale and rewind switch, concentric with rewind knob for choice of high or low range of meter. Distributors: Photax (London), Ltd.



No photocell can be seen on the Asahi Pentax Spotmatic of Messrs. Rank Photographic.



The Nikkormat (distributed by Pullin Photographic, Ltd.) has internal cells "reading" the focusing screen.

range of shutter-speed settings is available.

Essentially a programmed shutter works at its highest speed if the light is bright enough. As the strength of the light falls, that speed is maintained until a point is reached at which underexposure would result. The speed setting then changes to the next step lower, which is in turn maintained

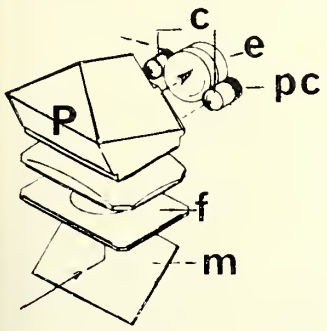


Diagram of cell arrangement in the Nikkormat. m = reflex mirror; f = focusing screen; P = pentaprism; pc = photocell; c = condenser systems; e = eyepiece.

until the maximum stop is called for, when a lower speed setting is selected and so on until the slowest safe speed for hand-exposures at maximum iris opening is reached. Then a visual warning is displayed in the view-finder. In some cameras the shutter release is locked to prevent an unsatisfactory exposure.

Programmed shutters vary from make to make and mark to mark in detail, particularly as camera manufacturers drawing on specialist shutter makers often request specific modifications.

Auto-manual Shutters

There could be no doubt about the value of the automatic camera to the photographer who wished to record views and events beyond the scope of the simple box-type camera but had no desire to delve into the technicalities of photography. True, there were some old hands who tended to deride it, but there were other experienced photographers who looked upon the automatic camera as an instrument that would take care of the mathematics and leave them free to devote their whole attention to picture making.

But the programmed shutter had one important failing. It deprived the user of the ability to choose between a fast shutter speed and a wide aperture or a small aperture and a correspondingly slow shutter speed. Action shots were well catered for by the automatic shutter (so long as intentional blur was not required for effect) but in bright lighting conditions the aperture, too, was set wide. Where depth of field was required, that might be objectionable.

So before long cameras appeared with automatic shutters that could be disengaged entirely or partially from the metering system. That was not so incongruous as might at first sight appear. For the majority of everyday shots the automatic system was an unqualified advantage, but when the "special" subject was encountered the exposure controls required adjustment. Examples other than those mentioned above are "into the light" shots, where the back-lighting would fool the meter into giving under-exposure; snow scenes and other subjects in which there is a preponderance of light or heavy tone widely different from that of the centre of interest. Synchro-daylight flash was ruled out, too, though there was invariably a flash setting which ignored the automatic system. There are now cameras on the market having a choice of fully automatic, fully manual or coupled-meter (follow-pointer) operation.

Cells—Photosensitive and Voltaic

At first the cells used to sense the light were invariably of the self-generating type. They are still in the majority and are of the same type as have been used in photo-electric exposure meters for over thirty years. The cells consist essentially of a coating containing selenium on a base-plate, usually of iron, that forms one electrode of the cell. When light impinges on the selenium a difference of electrical potential occurs between the selenium and the iron. If that difference of potential can be measured it enables an electrical equivalent of the light energy to be indicated, for instance on the scale of a sensitive galvanometer. To complete the external circuit between the iron and the selenium the latter is "spluttered" with a film of gold, so thin as to be translucent, but sufficiently continuous to conduct electrons from the selenium to the second electrode. The electrical output is measured in a microammeter movement, and the scale calibrated in values to suit the meter—arbitrary figures relating usually to the computer scales. The selenium photocell is in fact a miniature "solar battery." Note that electrical energy is produced from light energy.

More recently another type of photocell has come into use in photography. Unlike the selenium cell, this component is not self-generating. It depends upon the behaviour to light of cadmium sulphide, and a cadmium sulphide photocell acts as a resister whose value varies with the light impinging on it. That presupposes a source of electricity in the circuit. The CdS photocell, then, controls a powered circuit, and that allows the construction of photometers that respond to levels of light energy much lower than those which a selenium-cell-powered meter would detect. That is entirely because the light energy controls larger currents passing through the meter coils.

Any power source serving a meter system must be constant, or readings will be unreliable. The cadmium cell depends for its practicability on the mercury voltaic cell, whose voltage remains virtually constant until the end of its long life, when its output falls so rapidly as to call attention to itself. Even so, most meters and cameras in which cadmium photocells are used include battery check circuits.

Ordinary dry cells based on the Leclanché cell, using zinc and carbon electrodes with an electrolyte of ammonium chloride and a slow-working depolariser (manganese dioxide), were quite unsuitable for a meter circuit, since the cells polarised too quickly. The unoxidised hydrogen carried to the positive electrode actually sets up a "back EMF" or counter voltage.

In the mercury cell (made by more than one manufacturer but often referred to as the Mallory cell) a form of self-depolarisation has been contrived by arranging for the neutralised ions to be of the same substance as the positive electrode, in this case mercury. As in the Leclanché cell the negative electrode is zinc, but in the form of foil or compressed powder. The electrolyte is zinc oxide in a concentrated solution of potassium hydroxide, taken up on absorbent material. The potassium zincate produced con-

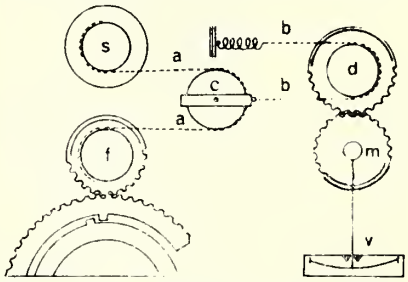
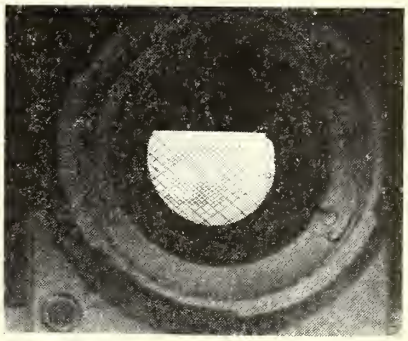
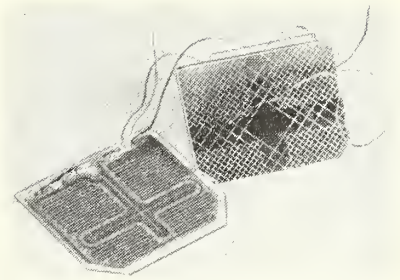


Diagram of mechanical linkages to preset meter of Topcon RE2 to working aperture (see also cut-away diagram at head of article). Adjustment of aperture ring rotates f and chain system aa alters position of e to rotate d which is geared to meter movement m. Distributors of the Topcon are Hanimex (U.K.), Ltd.

fers a high degree of stability. A pellet of mercuric oxide serves as the positive. When an external circuit is closed, zinc ions produced by chemical action pass into the electrolyte to displace positive ions of hydrogen, which in

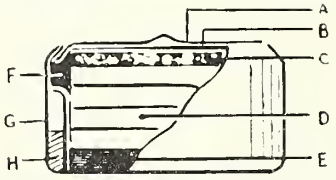


View through Topcon lens flange, showing mirror cum photocell.

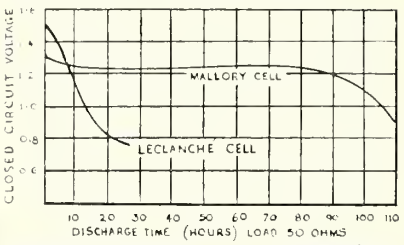


Topcon mirror assembly. Left, photocell lamina, affixed to back of mirror (right), which has a pattern of fine slits to allow a portion of incident light to reach grid.

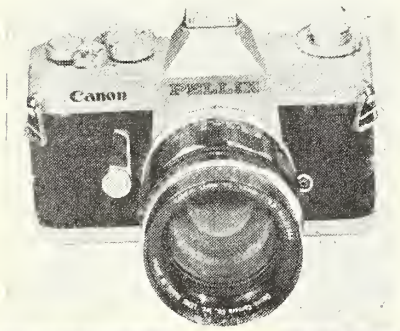
turn pass on to the mercuric oxide. As a result, positive ions of mercury are displaced, the hydrogen and released oxygen combine, while the displaced mercury ions neutralise the oncoming electrons. Thus polarisation is inhibited since mercury is the electrode material. There is no "local action" to take place in the unconnected cell and so limit shelf life. The voltage is in the region of 1.3, a little lower than that of a fresh Leclanché cell, whose output rapidly falls. Small mercury cells used in photographic equipment are constructed on the pellet system—hence the familiar button shape—but larger cells have cylindrical elements.

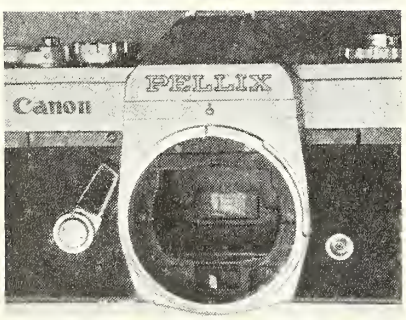


Section through pellet-type mercury cell. A, outer cup (–ve); B, tin-plate inner cap; C, zinc pellet; D, electrolyte in absorbent; E, mercuric oxide pellet; F, insulating seal; G, steel case (+ve); H, anti-leak seal.

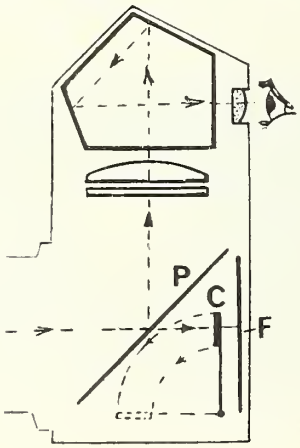


Comparison of voltage drop of Leclanché and mercury cells, each discharging through 50-ohm load.





The Canon Pellix (J. J. Silber, Ltd.) and view of photocell seen through the partial-mirror pellicle. The lever at left has been wedged to keep cell assembly upright. Below, diagrammatic section of the camera. P, pellicle; C, photocell; F, film plane.



Through-the-lens Metering

During the past few years cameras have appeared in which the light is sensed by a photocell or cells after it has passed through the lens. So far, in the still camera field the development has been limited (with one exception) to single-lens reflexes, and some ingenious devices have been evolved.

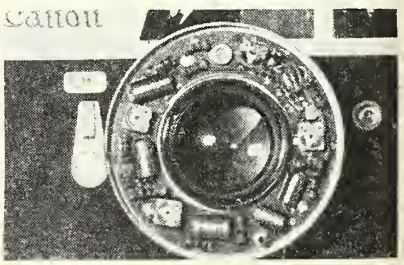
In the Topcons the cadmium-sulphide cell is actually built into the reflex mirror. A pattern of fine slits in the silvering of the mirror admit light to the cadmium sulphide elements on a lamina affixed to the back of the mirror. In the Alpa, Nikkormat and Asahi Pentax Spotmatic the cells are located in the pentaprism housing and receive light from the focusing screen after reflection in the pentaprism. To avoid spurious readings resulting from any light entering by the eyepiece there are three cells in the Alpa 9d, two forward-facing to sense light received through the camera lens and a third, directed rearwards, to respond to light from behind. The value of such light is subtracted from the sum of the outputs of the two front-facing cells. In the Nikkormat and Spotmatic there are two cells to read the focusing screen, but each has its own miniature lens system which projects a tiny real image of the camera field on to the CdS elements.

In the Canon Pellix there is no moving mirror. In its place is a thin membrane or pellicle with a fine metallic coating which acts as a transparent mirror—most of the image-forming light being transmitted to the film but a small proportion being reflected up into the viewing system.

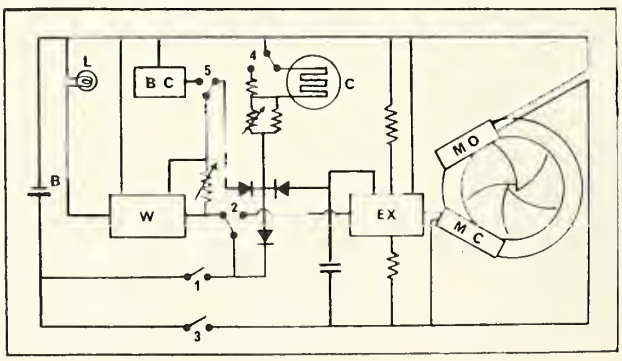
Although the primary object of using a pellicle is probably to obviate vibration due to a rapidly moving mirror and the attendant risk of camera shake, advantage is taken of its transparency by positioning the photocell immediately in front of the focal-plane shutter. The cell is mounted on a stirrup hinged to the floor of the camera chamber. Just before an exposure is made operation of a lever raises the cell and switches on the battery circuit to actuate the meter movement. Shutter and/or diaphragm adjustments are then made to register a needle and marker.

Electronic Shutters

In the autumn of 1963 the Polaroid 100 Automatic camera appeared, setting a new trend. It had an electronic shutter. The strength of the prevailing light was sensed by a cadmium-sulphide cell but there was no meter movement. The current flowing in the photocell circuit was fed into an electronic circuit, which controlled the exposure interval. The shutter consisted of two blades operating parallel with the camera front. When set for an exposure one blade, which had a perforation equivalent to the lens opening, and a shorter, unperforated blade working close to it, were latched back mechanically. Pressure on the release button unlatched the perforated blade, which was impelled at high speed across the front, coming to rest with its perforation uncovering the lens opening.

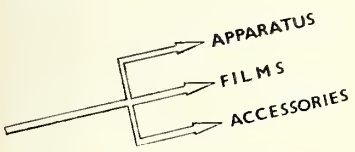


Front of the printed circuit board of the Seiko E-S electronic shutter.



Schematic diagram of transistorised diaphragm shutter. B, battery; BC, battery-check circuit; C, photocell; EX, exposure timing circuit; MO, opening magnet; MC, closing magnet; W, warning circuit; L, lamp used in warning and battery-check circuits.

be better not to embark on this kind of selling. And if you are not even interested in movie-making yourself, then certainly you should think twice about having such equipment in your shop.



Next to be discussed are the goods to be sold, and they may be grouped again under three headings . . . *apparatus, films* and *accessories*. Under the heading of apparatus both cameras and projectors should be considered, for the two pieces of equipment are complementary, and the one is useless without the other. Then, if the aim is to bring in customers who want the maximum amount of pleasure for the minimum amount of trouble, the camera must certainly not demand a technician's competence to operate it.

Automatic Equipment

That immediately brings us to equipment of the automatic kind; automatic in the sense that, for example, the control of exposure must be done by the camera and not by the user. Any controls that require interpretation, calculation or the learning of the meaning of new symbols, such as f/numbers, will only arouse misgivings on the part of the non-technically-minded person. All that the average home movie-maker wants to do is to point a box containing film at the scene he wants to record and to be reasonably sure that, when the film comes back from some mysterious "processing laboratory" it will have on it the scenes which he filmed, crisp and clear when projected. Under- or over-exposure, out-of-focus and other similar terms have no real meaning to him—he just is not interested in learning a complete new jargon simply to be able to record an ordinary scene of someone playing around on the beach.

Present-day cameras with automatic built-in exposure control, electric motor-driven film transport and a zoom lens (to take care of picture composition rather than as a gadget for imitating the over-worked use of such lenses in the cinema and on television) which may also be power-operated, coupled with cartridge loading, offer to the newcomer to home movie-making a simple compact tool for the job, which requires the minimum of detailed instruction. It is even wise, if you do happen to know something of the technical terms used in cinematographic circles, to avoid using them. If you decide, for example, to stock only cartridge-loading equipment and films, you never need mention anything at all about film types, emulsion characteristics, speed rating and so on!

At the present time, although some black-and-white cine materials are still available, the accent is on colour. It is almost inevitable that colour will eventually supplant black-and-white completely. With that in mind you may decide to reduce your stock varieties by restricting them to colour materials. In so doing you would be unlikely to lose many sales through not having alternative films. You may decide to go a stage further and keep to cartridge-loaded types only, but that decision may be more difficult to make if you have already built up, in previous years, a good turnover in spooled materials.

The great advantage of cartridge-loaded materials is, of course, that they are easier for the customer to load into his camera, that they are mechanically "coded" as to their type and rating, which avoids having to give lengthy explanations about setting exposure dials and so on, advising on colour correction filters for "daylight" and "artificial light" emulsion types, and on spoilt material due to incorrect loading of the camera or inadvertent opening of the camera before the film has been completely run through it.

Finally, we come to the matter of accessories. Among those items we may list splicers, "editors," titlers and so on. All of them can provide a useful addition to turnover, but—and here is the warning—none of them will be sold if the customer does not get good results on the film itself. You'll need to be a super-salesman to sell someone a splicer to join together a collection of poorly exposed rubbish filling a large reel. No one is going to take the trouble to buy an "editor" if it is to be used solely for the purpose of seeing where to cut out yards and yards of unacceptable material. If, however, your customer has several reels of even fairly good material he should not take much persuading to buy, for instance, a titler, so that he can make and insert simple titles giving place names on the family's holiday record, and so on.

Once the home movie-maker begins to see consistently good results from the film he uses, he will be encouraged to try his hand at slightly more ambitious things. If you can find out what other hobbies interest him, or what sports he enjoys, only a little imagination is required to induce him to ally the two interests. Continuing sales of film will, in the end, bring more profit than the once-only sale of the basic equipment. It will also bring back that customer again and again into your shop, especially if he has come to rely upon you for friendly interest and help in his various activities.

You certainly will not build this kind of confidence, though, just by handing over a few leaflets and expecting the customer to come back with the money in his hand, all prepared, choice made, itching to try his hand at movie-making. Furthermore, if you should have reservations about his seeking your advice and then going to a discount house to buy his apparatus, don't forget that Gillette once said that he didn't mind who made and sold the razors provided that he sold the blades! It is also fairly safe to say that anyone who is selling at a cut price will have little time to spend on helping the customer or for proffering advice in the future.

A 'mini'-sized cine camera

JAPAN'S SINGLE-8 FILM AND CAMERA COME TO BRITAIN

A NEW cartridge loading system for cine cameras, developed in Japan by Fuji Photo Film Co., Ltd., is being introduced on to the United Kingdom market by Hanimex (U.K.), Ltd., Hanimex House, 15 Great Dover Street, London, S.E.1.

The system, known as Single-8, uses the same format as the Super-8 system introduced by Kodak, Ltd., in 1965 (see *C. & D.*, March 13, p. 258; May 8, p. 470 and October 2, p. 339) and offers the same advantages of a larger picture area, increased brightness and sharpness, and a steadier picture. Other dimensions, such as size and distance apart of sprocket holes, are also identical with those of Super-8 film.

Film for Single-8 has a polyester base that is only two-thirds the thickness of conventional bases and has twice their tensile and ten times their bending strengths. The reduction in volume brought about by the new base allows a continuous length of 50 ft. of film to be spooled in the cassette.

Fujichrome R-25 Single-8 colour film

Single-8 cassette. Information on film type and expiry date are given.

has a speed of 25 ASA. Black-and-white films available are Fujipan R50 (50 ASA) and SSS R200 (200 ASA).

In the Single-8 system the cassette has been designed so that the film runs from a top spool on to a second spool mounted below. In that way a reduction in thickness and weight of the cameras using the system has been achieved. A pin in the cartridge chamber fits into a slotted groove in the cartridge, setting the film speed for automatic exposure control. In the Single-8 system the pressure plate is mounted in the camera.

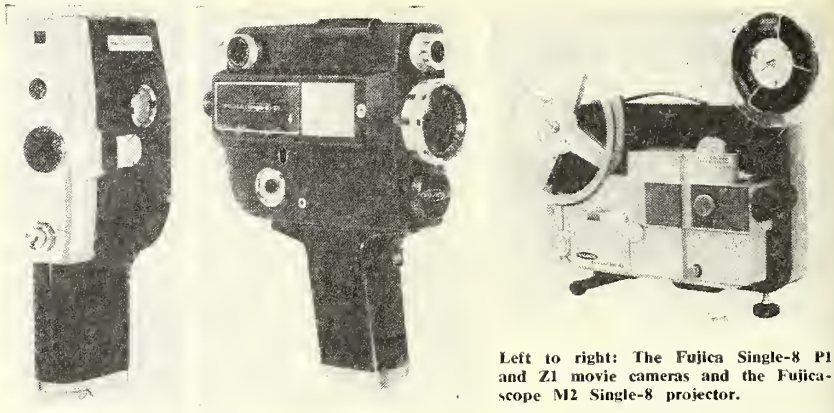
Two Single-8 cameras are available. The Fujica P1 has an f/1·8 11·5-mm. fixed-focus lens with built-in CdS exposure meter. Film speed range is 16-400 ASA. Batteries for drive (filming speed, 18 frames per sec.) are mounted in the handle. A 2x teleconverter lens and close-up lenses are available.

The Fujica Z1 Single-8 camera is similar but has f/1·6 9·5-29 mm. manually operated zoom lens, focusing to 3·3 ft. The reflex view-finder shows in its window the focal length being used. Filming speeds are 18 and 24 f.p.s. and single frame.

The Hanimex Super-8 zoom projector has an f/1·5 15-25 mm. Hanimar zoom lens. Spool capacity is 400 ft., with manual threading of film (both Super-8 and Single-8 are accepted). Illumination is provided by an 8-volt 50-watt lamp. The projector has an integral case.

The Fujicascope M2 Single-8/Super-8 projector has an f/1·4 25 mm. standard lens (a 19-32 mm. zoom convertor is supplied with each instrument). Illumination is by 8-volt 50-watt lamp. Speeds are variable from 14 to 24 f.p.s. with single-frame and reverse projection. Spool holds 600 ft. of Single-8 film. Socket for tape synchronisation is fitted.

Also announced is the Fujicascope SM1 Single-8/Super-8 sound projector, which has an f/1·3 20-mm. lens. This model uses a 21·5-volt 150-watt Truflector lamp. No provision is made for sound with reverse projection. Speeds are 18 and 24 f.p.s.



Left to right: The Fujica Single-8 P1 and Z1 movie cameras and the Fujicascope M2 Single-8 projector.

Changing the focal Length of a Lens

A WAY OF ENORMOUSLY INCREASING THE RANGE OF PICTURES THAT MAY BE TAKEN WITH A CAMERA

DOUGLAS F. LAWSON, F.I.I.P., F.R.P.S.

FEW photographers, I suspect, take advantage of the availability of interchangeable lenses and supplementary lenses, with which to improve the standard of their photography. Besides the demands in a chemist's daily working hours, countless picture-making opportunities occur in, and through, nature. But how do we start? If you are already a keen photographer you should be able to extend your techniques with additional lenses and careful applications.

I like to compare the use of a number of photographic lenses to the gears of a car. If a car had only one gear its performance would most certainly be restricted; it would be incapable of negotiating parts of the road. That analogy may also be applied to the use of a camera fitted with a single lens of fixed focus, say from infinity to 4 ft. No doubt at some time or other most people feel the picture they want to take calls for a long-focus or short-focus lens if they are to express themselves fully.

When the focal length of a camera lens is changed other factors are automatically altered, in particular depth of field, image size, exposure time, and the extent of the field seen through the view-finder in relation to the negative image. Those points will be covered later, but let us begin by looking at the pinhole camera, the one with the greatest depth of focus of all.

Pinhole Versus Adjustable Lens Camera

The main difference between a pinhole camera and a camera fitted with a lens is that the image in the former is in focus from the foreground to the far distance. On the other hand the image produced by the lens fitted to a camera is only in sharp focus at a certain distance from the lens, and objects both closer to the lens and further away are out of focus. The focal plane of the pinhole camera may be anywhere within the area of the image sharpness, whereas the distance of the focal plane from a camera lens varies according to the distance of the subject from the front lens (in a lens combination). Of course, exposures must be long because of the minute amount of light transmitted by the pinhole. Exposure time is considerably less when using a normal camera because its lens aperture is far greater than that of the pinhole.

When the distance between film and lens is equal to the focal length, distant objects will be sharp, and near objects blurred. If a close object, say 3 ft. 6 in. from the camera lens, produces a sharp image on the film, then the distant object is blurred. When the distance between film and lens is equal to the focal length of the lens, the lens is said to be set at infinity, and the light rays from the distant objects are regarded as being parallel. Also, when a sharp image of a close-up subject is made on a film the distance between film and lens must be greater than the focal length of the lens in use. A lens is specified by its focal length and maximum aperture (f/no.).

When a camera is used with an adjustable lens, a choice of focusing is provided, either by setting the camera-lens distance, or by visual focusing. Here the terms "depth of field" and "depth of focus" are freely used but there appears to be some confusion over those closely related expressions, and the operator must understand what each means.

Depth of focus is the distance a lens may be moved towards, or away from, the focal plane, while keeping the sub-

ject in focus without producing a blurred image. A lens with a large aperture produces less depth of focus than a small-aperture lens, because a greater amount of light is transmitted, involving diagonal marginal rays which are not brought to a focus at precisely the same point as the central rays. By contrast the pinhole camera has considerable depth of focus. The large lens can, however, be made to give greater depth of focus by reduction of the lens aperture, reducing the number of marginal rays involved in image making and producing a clearer image of both near and distant objects.

Depth of Field

The term "depth of focus" is often used when in actual fact what is really meant is "depth of field." This is depth of penetration of sharpness of the subject. Depth of focus and depth of field are related, but are not the same thing. Depth of field is outside the camera, while depth of focus is within. A clearly defined in-focus image of an object beyond, or nearer than, the focused subject gives the expression of depth of field. Like depth of focus, it can be increased by reducing the lens aperture. Depth of field is, as a rule, greater for wide-angle lenses than for long-focal-length, narrow-angle lenses. Close-up lenses are restricted in depth of field and, to go a step further, some lenses used in photomicrography have little or no depth of field.

The "normal" focal length of a lens is usually equal to the length of the diagonal of the whole negative area, i.e. a camera having a 2¼ x 3¼ in. negative would theoretically be fitted with a 4¼-in. focal length lens. In practice the focal length of a lens is usually a little longer than the normal diagonal. The size of the image produced by the lens is in exact proportion to the focal length, and has nothing to do with the overall size of the negative. A comparison of two lenses, one of 4½-in. focal length used on 120 film and another of the same focal length used on a ¼-plate (3¼ x 4¼ in.) negative would show that the duplicated negative images were of the same size provided the exposures were made from the same taking position. The ¼-plate would of course include a greater marginal area.

Focal lengths of lenses normally fitted to standard cameras are:

Normal focal length	Negative size	Number of negs. per roll film
1½ in. up to	1 x 1 in.	
2 in. up to	1⅝ x 1⅝ in.	16 on 127
2¼ in. up to	1⅝ x 1⅝ in.	12 on 127
3 in. up to	2¼ x 2¼ in	12 on 120
3½ in. up to	2¼ x 1⅝ in.	16 on 120
4¼ in. up to	2¼ x 3¼ in.	8 on 120
5½ in. or 6 in. up to	3¼ x 4¼in.	

The focal length of a lens gives some indication as to the angle of view covered by that lens.

Angle of View

Normally the focal length of a lens determines the angle of view, and that in turn controls the amount of the subject recorded. The shorter the focal length of a lens the greater will be the area recorded; likewise the longer the focal length of the lens the narrower the coverage of the subject.

Perhaps a better understanding of the term angle of view can be gained from the somewhat exaggerated illustration, Fig. 1. That represents a large camera housing a whole-plate negative and a lens of fixed focal length being used with two other negative sizes (¼ and ½ plate). The ¼ plate would only register part of the picture area seen in front of the lens, while the ½ plate negative would take in much more. Rays A could be considered as those of a wide-angle lens in comparison with rays C which, in this case, acts as a narrow-angle lens.

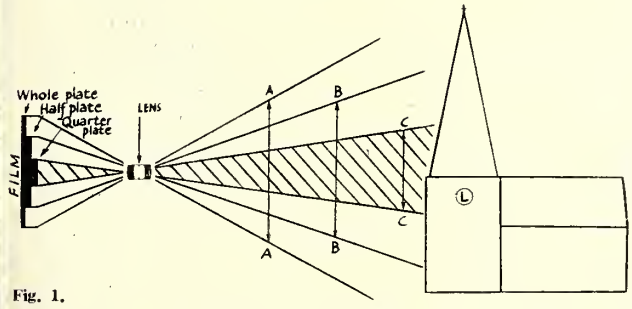


Fig. 1.

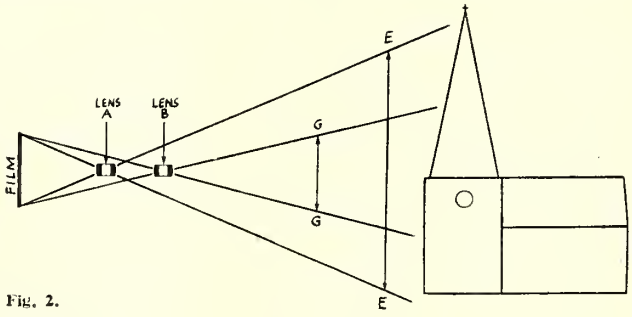


Fig. 2.

Angle of view can be changed in yet another way, as seen in the illustration, Fig. 2. Here we have a camera with a constant size negative, the image size depending upon the focal length of the lens. If the focus were at A then rays E would fill the negative area with a wide angle of view. If the focus were at B the negative area would still be filled to the edges but the angle included would be much narrower, as indicated by rays G. If the camera were moved back some distance, lens B would include as much of the subject as rays E, thus the angle of view would be greater than G.

A lens of normal focal length covers an angle of approximately 50 degrees, as compared with the angle of approximately 25 degrees seen by the eye when it is stationary. Some wide-angle lenses cover an angle of 90 to 100 degrees, and in some exceptional cases even that is exceeded, while a long-focal-length lens may only cover an angle of 20 degrees. At least three lenses are needed to cover a wide range of subjects. The most useful lenses would be a wide-angle lens, a lens of medium focal length and a lens of long focal length to cover long-distance shots such as birds or animals. Many workers are disappointed with the results of photographing distant hills and mountain views with a standard wide-angle lens, the results seeming flat and unimpressive. Here a longer focal length lens should have been used. Many 35-mm. cameras, including the Leica and Contax, have interchangeable lenses, which enable a greater range of subjects to be recorded. The Nikon, the best Japanese 35-mm. camera, has well over twenty interchangeable lenses ranging from 21-mm. focal length to the 1,000-mm. Missor. Those lenses cover an angle of view from 92 degrees to 5 degrees. By way of contrast the Takumar lens gives a coverage of 180 degrees. Among the wide range of Russian made lenses is the MTO.1000 f/10 lens. This huge lens has a mirror and lens optical system with a focal length of 1,000 mm. and a tube length of 260 mm. Largest diameter is 158 mm. The field of view for this giant is 2° 30′. Adaptors are available for Zenith fitting lenses to suit Edixa, Pentax and Miranda D. Fed fitting lenses have Leica/Canon screw fitting.

View-Finder

The view-finder is an important and necessary piece of apparatus, each camera having its own type, peculiar to the model. The view-finder fitted to a box camera may often be misleading, because of its very brilliance and because, not unlike the open-frame finder, it gives the impression that all distances will be rendered sharp. The optical and prism types of view-finder are popular. As a safety measure a view-finder often covers slightly less field than the taking lens. Optical finders are often preferred by those wearing spectacles. Universal finders are adjustable for lenses of different focal lengths, whereas those already referred to are not.

Supplementary Lenses

Supplementaries are simple lenses placed over the existing camera lens. They offer a quick and efficient means of changing the focal length of the

Illustration A.

existing lens. A change in the image size (Fig. 1, Illustration A) is therefore brought about. There are two kinds of supplementary lenses; negative (diminishing) and positive (magnifying), respectively shortening and lengthening the focal length of the camera lens (Fig. 3). Negative supplementary lenses may only be used with cameras fitted with a ground-glass focusing screen and extendable bellows, say double or triple. When using a negative supplementary lens over the existing lens the combination will increase the back focus (distance from the lens to the focal plane) (Fig. 3, centre) and will decrease it when a positive supplementary lens is used (Fig. 3, bottom).

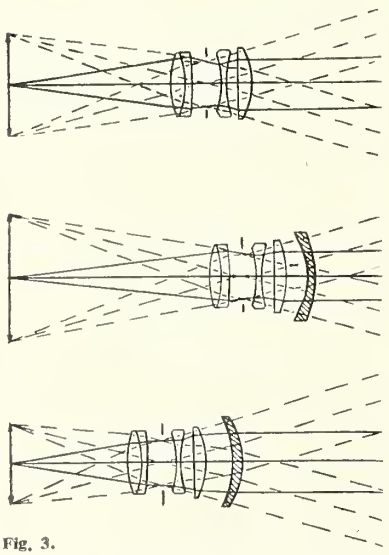


Fig. 3.

Positive supplementary lenses are simply concave lenses, and are quite adequate for most close-up tasks, from portraiture to insect life. The strength of supplementaries is expressed in dioptres.

$$1 \text{ dioptre} = \frac{100}{\text{focal length in cm.}}$$

A lens of two dioptres has a focal length of 50-cm., and one of three dioptres has a focal length of 33-cm. Many makers of meniscus lenses[1], publish a focusing chart for each of their lenses. The tables illustrate the changes brought about by the lenses, and at the same time are an excellent working guide.

From the tables it will be seen that, if the subject demands working at a distance of 12 in. from the camera, a No. 3 supplementary lens is necessary. and the distance setting on the camera should read 15 ft.

These lenses fit neatly into a holder which can house both lens and filter or can operate singly. Lens holders are offered by B.D.B. Engineers, Luton, Ltd., Luton, Beds, and Photo Science, Ltd., in various sizes, providing an easy and efficient attachment that makes possible a quick change in strength of lens if necessary. Messrs. B.D.B. Engineers will make holders to any specification.

No. 1 MENISCUS LENS

Lens distance setting	Distance from lens to subject
3 ft.	1 ft. 6¼ in.
4 ft.	1 ft. 9¾ in.
5 ft.	1 ft. 11¼ in.
6 ft.	2 ft. 1½ in.
8 ft.	2 ft. 3¾ in.
10 ft.	2 ft. 6 in.
12 ft.	2 ft. 1 in.
15 ft.	2 ft. 8¼ in.
20 ft.	2 ft. 10 in.
50 ft.	3 ft. 1¼ in.
Infinity	3 ft. 3¼ in.

No. 2 MENISCUS LENS

Lens distance setting	Distance from lens to subject
3 ft.	1 ft. 0½ in.
4 ft.	1 ft. 2 in.
5 ft.	1 ft. 2½ in.
6 ft.	1 ft. 3½ in.
7 ft.	1 ft. 4 in.
10 ft.	1 ft. 5 in.
12 ft.	1 ft. 5½ in.
15 ft.	1 ft. 5¾ in.
20 ft.	1 ft. 6¼ in.
50 ft.	1 ft. 7 in.
Infinity	1 ft. 7¼ in.

No. 3 MENISCUS LENS

Lens distance setting	Distance from lens to subject
3 ft.	9⅜ in.
3 ft. 6 in	10 in.
4 ft.	10⅜ in.
5 ft.	10¾ in.
6 ft.	11⅛ in.
8 ft.	11½ in.
10 ft.	11⅞ in.
15 ft.	12 in.
25 ft.	12⅛ in.
50 ft.	12⅜ in.
100 ft.	1 ft. 1 in.
Infinity	1 ft. 1 in.

The combined dioptre power, or the focal length of the supplementary lens F, may be found from the following formulæ*.

Using dioptre power:

$$F = \frac{100\,fc}{Dfc + 100}$$

Using focal length:

$$F = \frac{fc \times fs}{fc + fs} - S \text{ for a converging lens}$$

$$F = \frac{fc \times fs'}{fc - fs'} - S \text{ for a diverging lens}$$

Where fc = camera focal length
fs and fs′ = focal length of supplementary lens
S = separation between lenses (if this is small it can be neglected)
D = dioptre

Another method whereby the focal length may easily be calculated is by adding the refractive power of the camera lens to the refractive power of the supplementary lens, both in dioptre power. As can be seen, that will, in effect, be a combination in dioptres. It is necessary, however, to make another calculation to obtain the combined focal length, which will be $100/x$ (x = the number of dioptres).

Supplementary lenses are sometimes referred to as opticians' eye glasses because opticians use them extensively. A supplementary lens of 1 dioptre corresponds with a focal length of 1 metre (39⅜ in.) and the number of dioptres of a lens is the reciprocal of the focal length in metres (D = 1/f). A supplementary lens of 4 dioptres has a focal length of 25-cm., or ¼ metre.

Parallax Compensation

If the subject about to be photographed is close to the taking lens the viewfinder may not show the area with complete accuracy, owing to displacement of the view-finder and lens on parallel axes (Fig. 4). Parallax can be frustrating, and unless some measure is taken to obviate its effects there is little hope of producing an image whose area corresponds with anything like that seen in the view-finder. With through-the-lens view-finders parallax error does not occur. It does occur in some twin-lens reflex cameras but may be corrected if a suitable lens is used. The Mamiya C3 camera does not suffer from parallax error. The taking lens and view-finder lens are paired, and are sold in a complete lens panel including shutter.

*Newnes "Complete Amateur Photography."

[1] Actina, Ltd., 97 Fonthill Road, London, N.4; Apco Photographic Sales, Ltd., 73 Basinghall Street, London, E.C.2; Apparatus & Instrument Co., Ltd., 36 Grove Road, Hounslow, Middlesex; Bush & Meissner, Ltd., 91 Marylebone High Street, London, W.1; Photax (London), Ltd., 70 Charlotte Street, London, W.1; Photo-Science, Ltd., Charfleet Road, Canvey Island, Essex; and Priory Optical Co., Ltd., 104a Old Christchurch Road, Bournemouth, Hants, are examples.

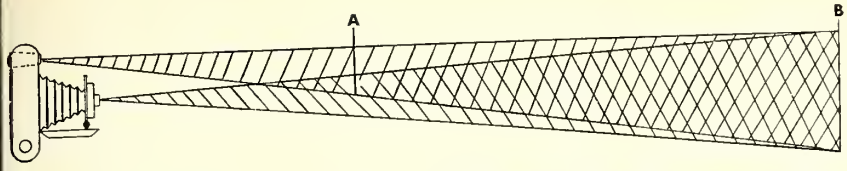


Fig. 4.

The Rollei 16 camera is fitted with a parallax-corrected bright-line view-finder, but models other than of that date need supplementary lenses when working closer than 2 ft. 9 in. The two lenses are paired, i.e., exactly matched in focal length. One lens is used attached to the finder lens, and one is attached to the taking lens. The Rolleinar sets supplied over the past few years have built-in parallax correction.

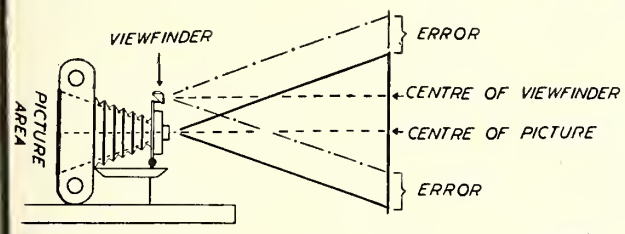


Fig. 5a.

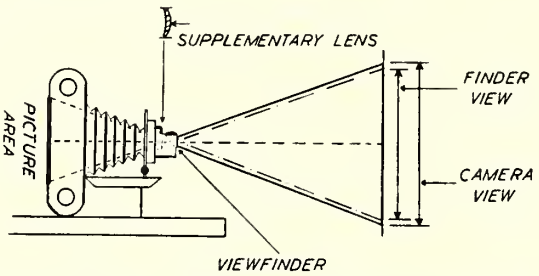


Fig. 5b.

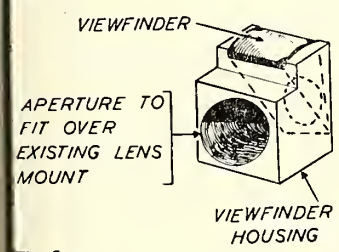


Fig. 5c.

Figure 5a illustrates the author's small Zeiss pocket camera, which takes sixteen negatives on a 120 film. Some of the illustrations here reproduced were taken on that camera. It was not supplied with supplementary lenses nor with a means of correcting parallax should a supplementary lens be used. Parallax with that camera can be seen in the figure. The error was troublesome and much film was wasted, so it was decided to remove the view-finder (Fig. 5a) and make a lens holder to house it as seen in Fig. 5c. The holder fits neatly over the camera lens (Fig. 5b). When the picture has been composed the view-finder is removed just before exposing the negative. Unlike (a) of Fig. 6, the view seen through the view-finder equals that of the image projected on to the film (Fig. 6c).

Range-finder

The close-up range-finder (Fig. 6c) is an optical precision range-finder for close-up work when using the Kodak N1, N11 and N111a supplementary lenses. Automatic parallax compensation ensures that the finder view always corresponds to the image recorded on the film (Fig. 6b). The range-finder fits neatly into the accessory shoe of the camera (c of the figure). The field of view having been determined, the distance is set on the range-finder. The double image is seen until focusing takes place, when the double lines merge and become one. That adjustment tilts and sets the close-up range-finder to the correct distance, as seen in the figure.

The addition of the supplementary lens causes little or no change in exposure time (illustration A) since the diameter of the iris diaphragm remains unchanged. When the back-focus is increased, the speed of the lens decreases, and when the back-focus is decreased the speed of the lens increases. In other words the exposure time will vary accordingly. There is, however, a marked difference in exposure time when using a negative supplementary lens because it increases the bellows extension to some degree. When using a non-bellows type of camera or one with non-extending bellows the exposure time remains approximately the same, however, because the distance from the lens to the focal plane remains unaltered.

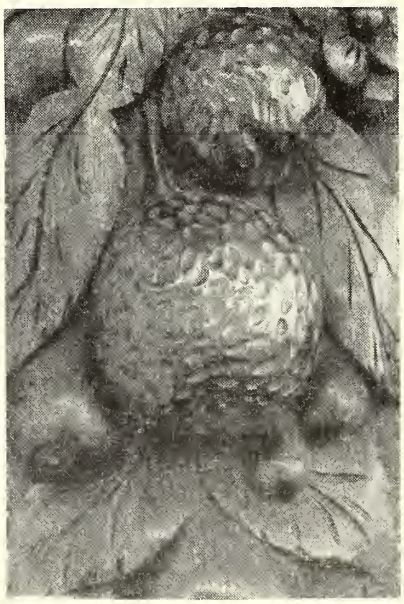


Illustration B.

Care must be taken that depth of field is adequate for the job in hand (illustration B). It must be realised that the nearer the subject is to the lens the less the depth of field. Subject sharpness depends upon several factors (quality of the combined lenses, aperture used, focal length of the lens in use, available light, whether or not a tripod is used, and finally the focused distance). It should be remembered there is less depth of sharpness in the front of the focused point than there is beyond.

The comparatively shallow depth of field in front of the focused distance may not be enough for a particular subject. It is therefore suggested that a small aperture, say f/16 of f/22 should be used. That will considerably increase depth of penetration. Exposure time will also have to be increased. Sometimes a choice must be made between the movement of the subject and the shallow depth of field. On the other hand it is sometimes more pictorial if the subject is sharp and the background receding. The use of an abundance of light produced by a flash unit and large aperture make a short exposure time possible, but great care must be taken in processing the negative to prevent it from becoming too contrasty. Details in shadows and high lights should be retained.

Objective

Another method of changing the focal length of the lens is to use a low-power microscope objective, say 2, 3 or 4-in., with a bellows camera. That enables minute subjects to be photographed with previously unimagined clarity. The camera must be supported in order to eliminate camera shake. A ground-glass screen is recommended for focusing and arranging the subject. If an objective is not to hand a similar camera may be used together with a hand magnifier.

Extension Tubes

Miniature cameras, with interchangeable lenses, have extension tubes that act similarly to an extendable bellows. An extension tube takes the lens away from the focal plane, whereas the bellows of a camera moves the focal plane

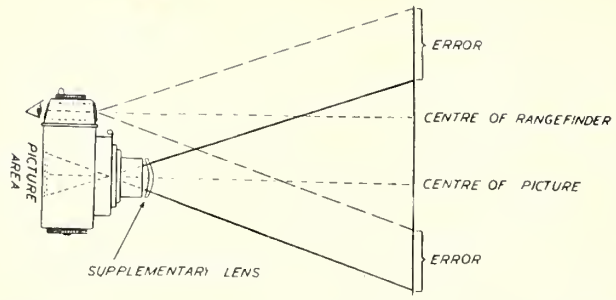


Fig. 6a.

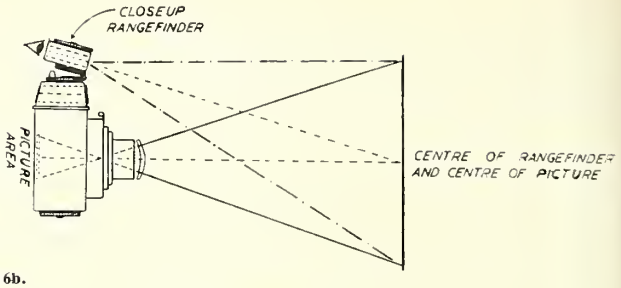


Fig. 6b.

away from the lens (in stand cameras that have a sliding back). Both methods increase the image size. The tubes are placed between the lens and the camera body and are usually made in a range of lengths (L, 2L, 3L and 4L). The most useful set for a 35-mm. camera is a set of tubes of 2L 2-cm., and one 4L 8-cm. They will provide an extra coverage over the existing lens. Photopia, Ltd., Newcastle, Staffs, are agents for nearly all makes of tubes, including Schacht (whose tubes are interchangeable) and particularly for Edixa, Praktica and Pentax. Wrays (Optical Works), Ltd., Ashgrove Road, Bromley, Kent, market the well-known Wrayflex tubes under the name Petri. These tubes are of superb quality and well finished. The table below may be of help to those thinking of purchasing tube extensions. It shows, for a 50-mm. lens focused on infinity, a selected number of extensions and illustrates how the several variables involved are affected.

Exposures for Close-up Photography

In close-up photography the aperture, or f-number marked on the lens is no longer correct, the effective aperture being reduced owing to the increased extension necessary to focus on near objects. That can be allowed for in one of two ways; either the effective aperture can be calculated or a factor determined by which the indicated exposure time must be increased.

When a camera is focused on a very distant object, i.e. infinity, the distance from the "rear nodal plane" to the "focal plane" is equal to the focal length of the lens as marked. In most lenses of normal design, the rear nodal plane coincides with the position of the iris diaphgram; the focal plane coincides with the position of the film. When, however, objects near at hand are brought into focus, the lens has to be moved further from the film; thus the lens to film distance which we will call, for convenience, 'V' becomes greater than the focal length, 'F.' When extension tubes or bellows are used with the focusing mount of the lens set at "infinity," 'V' can be found by adding the bellows or tube extension 'F.'

These two quantities, 'V' and 'F' can be used in two ways, either to work out the tube value of any given f-number under these conditions of using extension tubes or bellows, or to determine a factor to be applied to the exposure time. In the first case, the true effective f-number is equal to:—

$$\frac{V}{F} \times \text{marked f-number}$$

In the second case, the required exposure is equal to:—$V/F^2 \times$ indicated exposure time, reading from an exposure meter, etc.

Take, for example, a subject that requires the use of a 50-mm. lens together with an extra extension of 30 mm. by tubes or bellows; the exposure meter indicates 1/30 second at f/8 as the correct exposure. Now if the lens is set at the marked aperture of f/8, the effective aperture will be:—

$$8 \times \frac{80}{50} = f/12{\cdot}8$$

This is between 1 and 2 stops smaller aperture than the marked f-number. We could, of course, use the formula to find which of the marked apertures would give us an effective aperture of f/8, but in actual fact its value would be so large that it would produce little or no depth of field, or depth of sharpness and so it is an advantage to keep the aperture small and thus gain depth of field. Of course the exposure time would be increased accordingly. To ascertain the new, longer exposure time, use the second formula: in the example above this would mean that the new exposure would be:—

$$\frac{1}{30} \times (80/50)^2 = \frac{1}{30} \times \frac{64}{25} = \frac{64}{750} =$$

·085 seconds, approximately 1/12th second, or an exposure time 2½ times longer than suggested by the meter.

Many extension bellows and tubes have factors for exposure increase marked for lenses of different focal lengths, but the formulæ given above will enable the working out of the correction for any lens with any extension.

When operating with long bellows or tube, it is advisable to focus on the subject by moving the camera to and fro.

Effect of varying extension with a 50-mm. lens set at infinity.

Increase of extension (v)	object distance (a)	image distance (b)	total distance (a + b)	image scale (m)	size of object (FG)	exposure factor (Z)
mm.	mm.	mm.	mm.	mm.	mm.	mm.
0	∞	50	∞	variable	variable	1·0
2	1300	52	1352	0·04	600 × 900	1·1
6	467	56	523	0·12	200 × 300	1·3
8	363	58	421	0·16	150 × 225	1·4
13·5	235	63·5	299	0·27	89 × 133	1·7
15·5	212	65·5	277	0·31	78 × 116	1·8
19·5	179	69·5	248	0·39	62 × 93	2·0
21·5	167	71·5	237	0·43	56 × 84	2·1
29·5	135	79·5	215	0·59	41 × 61	2·6
31·5	130	81·5	211	0·63	38 × 57	2·7
35·5	121	85·5	206	0·71	34 × 51	3·0
37·5	117	87·5	205	0·75	32 × 48	3·1
43	109	93·0	202	0·85	28 × 42	3·5
45	106	95·0	201	0·9	27 × 40	3·7
49	101	99·0	200	0·99	24 × 36	4·0
51	99	101·0	200	1·02	23 × 35	4·1

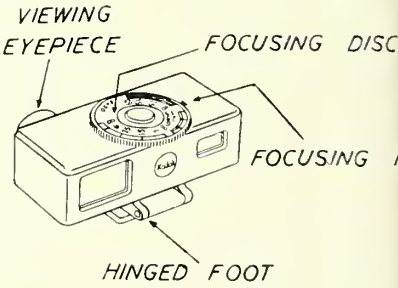


Fig. 6c.

Bellows Unit

Photopia (Photopia, Ltd., Newcastle, Staffs) bellows unit accepts all lenses threaded for Edixa, Pentax, Praktica, etc., allowing focusing down to a few inches. A single bar marked off in centimetres carries the bellows, the markings indicate the extension at

which the lens is working. The lens and body mounts both rotate to allow for differences in starting threads of different lenses and cameras. The extension movement can be locked in any desired position.

Kopil (Photopia, Ltd., Newcastle) bellows units are made in three types; the Bellowscope, the Duo Bellowscope and the Bellowsmat. The former has a single supporting bar whereas the Duo Bellowscope has twin supporting bars offering greater rigidity. The Bellowsmat has rising and swing front movement and can be used with the Exakta, Leica and those already mentioned.

Convertible Lenses

Convertible lenses have either a fixed rear component or a fixed front component. In both situations the lenses can operate singly or combined, i.e. a Ross Express 5½ in. focal-length lens becomes a 9 in. focal length lens when the rear component is removed. Converter lenses are available in a wide variety of fittings and usually have a magnification factor of about 1·5× for the tele-converter and about 0·75× for the wide-angle converter. Such lenses usually require the standard lens to be stopped down, just as is done when using supplementary lenses. Usually the working aperture for converter lenses is about f/8 to f/11, this will prevent a cutting off, or vignetting.

Another well-known maker's lens offers much more, the combined front and back lens have a focal length of 6½ in. When the front lens is used on its own the focal length stretches to 11¼ in. while the back lens has a focal length of 9¼ in. The combination is extremely useful, making provision for close-up photographs of a bird or similar subject. A typical range of convertible lenses for a miniature camera would have focal lengths of 35, 50, 85 and 115-cm. and offering an aperture as large as f/3·2. Here the front component is removed to give the added focal length. It must be said that most convertible-type lenses are not makeshift affairs, but are lenses with the best possible corrections for the specific focal length. The necessary precautions, to prevent dirt and dust from gaining access to the existing lens surface and iris diaphragm, must be taken whichever type of lens is in use.

Supplementary Lenses for Monoculars

Perhaps it is not commonly known that supplementary lenses may be successfully used with a monocular lens of, say 200-mm. or 400-mm. and similar lenses. Of course the function of the monocular is to increase the focal length of the camera lens and the supplementary lens to shorten it. That at first appears to be a contradiction. It is, however, surprising that a monocular and supplementary lens may be most useful in " close-up " photography —or, should it be said, close-up photography at a distance. Everybody knows that there is a risk of frightening a live subject away when working at close quarters, but with this method there is no fear of that. Another advantage of photographing with monocular and supplementary lens is that the operator has far more room in which to work. Supplementary lenses available for the 8 x 30 Zeiss monocular, when fitted to the Contaflex camera yield a negative scale ranging from 1:2·5 to 3·5:1. That feat is quite astonishing when one considers the lens-to-subject distance. In all circumstances the camera should be supported by a tripod or the like, as the slightest vibration is magnified proportionally to the picture magnification. The supplementary lenses are supplied in the following strengths:—

8 dioptre	12·5-cm.	focal length
5 dioptre	20-cm.	focal length
3 dioptre	33-cm.	focal length
2 dioptre	50-cm.	focal length
1 dioptre	100-cm.	focal length

A revealing exercise would be to photograph the same subject with each of those lenses fitted to a standard monocular.

50-mm. focal length + extension	50-mm. focal length + supplementaries	8x80B Monocular + supplementaries	Scale of reproduction
Extension: 75 mm. Distance: 150 mm.	Supplementary: 10 cm. Distance: 105 mm.	Supplementary: 1 D Distance: 800 mm.	1:2
Extension: 100 mm. Distance: 100 mm.	Supplementary 1:1 Distance: 50 mm.	Supplementary: 2 D Distance: 400 mm.	1:1
Extension: 150 mm. Distance: 75 mm.	not practical	Supplementary: 5 D Distance: 200 mm.	2:1
Extension: 200 mm. Distance: 67 mm.	not practical	Supplementary: 8 D Distance: 100 mm.	3:1

Suggestions for close-up photography and negative image magnification, the distance measurement being taken from the existing lens.

Another way to alter the focal length is to use a supplementary telescope as is often done with narrow-gauge cine cameras fitted with built-in lenses. The convertible lenses are designed on the principle of the Galilean telescope, and are sometimes called opera glasses. The Galilean telescope consists of a converging lens, which acts as the objective, and a diverging lens as the eyepiece. When an object is viewed with this telescope the angle of view is that formed with the axes of the optical system. The oblique rays come from the extreme points of the object. The lens causes the ray to leave the eyepiece at a wide angle and thus the angle at which the object is seen is magnified. When the telescope is placed in front of the camera lens an enlarged angle of the subject is transmitted. In fact both the telescope and camera lens act as a long-focal-length lens. The Prismscope made by Wray (Optical Works), Ltd., is a 12× telescope adaptable as a long focus lens to 35-mm. cameras, and is used with through-lens viewing. As with certain other lenses reversing the telescope shortens the focal length. When a telescope is used the back focus remains the same since the telescope image lies at infinity. That is not so when one is operating with a supplementary lens or when changing the focal length of the lens.

Zoom Lenses

When it comes to deciding whether to go in for an interchangeable lens system or zoom system, I suppose it is a matter of taste. On the other hand, perhaps zoom lenses are not yet generally accepted for stills, and in the back of our minds we think they are more useful for cine work, as they made their entrance *via* the cine camera. Operating with a zoom lens has a technique of its own, of which the most important attribute is the ability to fill a small negative format with the whole area of the subject. In this respect one must have plenty of practice in the manipulation of zooming from afar to touching distance, exposing with the main point of interest in correct position of the format. The maximum aperture of a zoom lens is equal to that of independent lenses, and they retain their aperture and should remain in focus while covering the whole range of focal lengths. Exposure remains unchanged while " zooming." I found that these zoom lenses were more accurate for close-up work and fell off (not quite so crisp sharp) when covering a long-focus subject. A " must," I feel, is the incorporation of a strong tripod, enabling the camera to remain pointed in the same direction while making several exposures. There is nothing worse than bouncing off beam and then coming back with a " dead-on-shot " in the last frame.

As more variable focal length lenses or " zoom " types come on the market, the more popular they will be. It is reported that a new model of the Russian Zenith SAR, the model 6, is fitted with a 37-80 mm. f/2·8 zoom lens. These lenses, which are mostly derived from the triplet type of lens, may have as many as twelve to fifteen elements. Some useful zoom lenses which have recently been designed cover a range from 85 mm. to 200 mm. Photographic Lenses, recently published by Fountain Press, contains chapters on zoom lenses.

Previous articles by the author have been on photomicrography, on penicillin research and production, and on dressing and photographing a pharmacy window.

Colour photo finishing - and you

HELPING THE CUSTOMER TO HELP THE DEALER

H. P. REECE (Fencolor Laboratory, Ltd.,)

THERE can be no doubting the fact that colour photography is now fully established. It has brought pleasure to many, and another source of profitable business to those having the initiative to promote it fully.

The financial returns possible from colour developing and printing today are certainly sufficient to warrant allocating at least part of the window display to some form of sales promotion. That might be done by displaying sample prints and indicating the service offered. The display should, of course, illustrate the sizes and prices of prints available and the advantages of selective enlarging for the special negative or slide, not forgetting that colour prints fade and should be renewed fairly regularly. When window space is not available, an alternative counter display is a MUST.

A Great Advantage

If space permits, a special developing and printing counter is a great advantage. Customers collecting and depositing their orders can then be dealt with quickly and without interfering with other retail business. That helps considerably in attracting custom, as most amateur photographers prefer to shop where they know their hobby is well catered for and not casually dealt with as a small and rather unimportant part of the turnover. In this connection it is as well to ensure that the assistant dealing with the developing and printing trade is at least able to interpret instructions correctly, and to answer the more common queries and complaints.

Given that degree of interest on the part of the management, and some enthusiasm on the part of the assistant, it is possible to build up a lucrative and continuing D. and P. connection. It should be remembered that orders for developing and printing ensure that the customer enters the shop at least twice. It also offers good opportunities for increasing film sales, a further welcome addition to the turnover. Incidentally, seasonal business such as Christmas, which provides the opportunity to have cards including a personal photograph made, and the greater photographic activity during the summer holiday periods both present welcome opportunities for additional sales promotion.

The coming of colour has been an opportunity for advancement yet an embarrassment to the photo-finisher, owing to the large amount of additional capital involved and the complexities of the various photographic processes in use. Not least of his problems are concerned with consumer reaction, and it is in that sphere that co-operation between photo-finishers and dealers can pay its biggest dividends.

The main difference in the processing and printing of colour films, as opposed to black and white, is that, in judging colour photographs, personal preference plays a much greater part. Of necessity customers are much more critical and the proportion of rejections or complaints is higher. In many circumstances the criticisms may not be justified, mainly owing to lack of appreciation by the public at large of the limitations and, in some ways, the deficiencies of the processes and materials involved. Co-operation between dealer and finisher can do much to reduce the prevalence of such complaints.

After many years of experience in photo-finishing the pattern of complaint is now reasonably clear, and is common to all processing stations. It is therefore possible to list certain points (surprisingly few in number) that are at the root of much of the trouble. At the risk of seeming to state the obvious, they are listed and explained here because, once they are accepted and grasped by the public, many of the present difficulties and frustrations will automatically disappear.

Personal Preference

Main bugbear of the colour photo-finisher lies in the number of orders that are rejected, or returned for re-printing, because they are not as good as, or do not match, original prints made from the same negatives or transparencies. Automatic colour matching simply does not exist, except by pure chance, as two variable factors are involved. One concerns the materials, and the other the personal preference of the expert responsible for colour correction or for setting up the automatic printers to give a certain balance of colour.

The colour characteristics of batches of photographic paper produced at different times vary sufficiently to give radical colour differences to prints made on separate occasions and to prints of different sizes made from the same negative or transparency, since printing paper of different sizes is rarely cut from the same manufactured batch of paper.

Much of the necessary colour correction is now carried out by electronic equipment. Nevertheless that equipment itself has to be set up by human hand and eye. If the expert responsible prefers a warm colour balance, then it is possible to set equipment to print that warmer tone. In consequence a reprint made at another finishing house may be totally different, as the expert in control where the reprints are made may, for example, have set his equipment to give colder (blue or green) results. It is a matter of fact that it is possible to produce from any given negative, a considerable number of prints of varying colour balance, each perfectly acceptable when viewed singly, but the subject of violent controversy when viewed in comparison with others.

It is of the utmost importance, therefore, that original colour prints should be sent with all reprint orders where colour matching is required. To do that will save innumerable headaches for both dealer and finisher alike.

The question of colour matching has been dealt with in some detail because, in the writer's opinion, it is the greatest of all problems arising between the finisher on the one hand and the dealer and public on the other.

Inevitably some negatives and transparencies are returned unprinted. Where NEGATIVES are concerned the most common reasons for not printing, are:—

ERRORS OF EXPOSURE

If a negative is thin and under-exposed, colours will be flat and uninteresting, and there will almost certainly be an overall colour cast, which will vary each time the negative is printed. Where a negative is really thin then it is often not worth printing as the defects mentioned above will make such prints unacceptable. The same applies to over-exposed negatives. Colour casting in that event is likely to be even more pronounced.

LACK OF SHARPNESS

Unsharp pictures are possibly due to camera shake at the time of exposure, to faulty focusing or occasionally to a defective lens.

FOGGING

Fogging of the negative may be due to loose winding of the film on the take-up spool or to accidental unrolling during removal of the film from the camera.

Those points are covered by a note from the processer if the film is a complete failure for one or other of the above reasons.

Where prints from transparencies are concerned the main reasons for no printing them are again under-exposure

—which gives slides that are too dense o print, over-exposure—giving slides oo thin to print, and un-sharp slides aused by one or other of the reasons lready mentioned.

Rapid Advance

Another sphere of colour printing hat has advanced rapidly in general opularity is the service that offers rints from transparencies or slides. It nay be as well, therefore, to pass a omment or so on it, as here again he public have no clear picture of what is involved, and often expect ood results from poor-quality riginals.

From the start it should be realised hat prints made from slides are, of ecessity, a compromise. The material n which the slides are made is esigned for that particular purpose, nd has quite different characteristics rom negative film. For that reason it s wrong to expect, by mass-produc- ion methods, the same print quality rom both types of film.

Reversal or slide film is designed to ive brilliant transparencies for view- ng by transmitted light. When prints re made, they cannot be expected to ompare in brilliance with the original lide, if only for the reason that light asses through the slide, and is there- ore of greater intensity than when the ight is reflected only, as is the case vith a print. Whilst dark or dense ransparencies may sometimes be cceptable, as they are viewed with he light passing through them, prints nade from those slides are often un- cceptable through being too dark to e seen clearly. True, that difference an be compensated for when printing, ut only at the expense of correct col- ur balance and colour intensity. Prints nade from dark or thin slides are ever very good, as the defects of the riginals are generally accentuated in he prints, either in terms of lack of rilliance or, in prints from thin slides, verall colour casts.

Correctly exposed slides of good olour saturation will give good- uality colour prints, but even they annot be expected to match the origi- al slides for brilliance and colour. It helpful, therefore, if slides are briefly hecked when the order is taken and he short-comings of the process, in re- ard to dense or thin slides, explained.

There is a steady, if rather infre- uent, demand for duplicate transpar- ncies. The service is one that probably auses more worries to the photo- nisher than any other, and for reasons uite outside his control.

When copying slides, there is an utomatic increase in contrast in the ppy, as compared with the original, hat is entirely due to the characteris- cs of the copying materials. That rise contrast accounts for the majority f the complaints and disappointments connected with the service and the weak- ness of the material is particularly noticeable where the original slides are under-exposed and dense.

Where originals are thin there is a tendency for the duplicates to have a noticeable colour cast, again primarily due to the characteristics of the copying material, but also due to the colour correction filters printing through the thin areas of the slide and affecting the copy.

There are no additional complications when reducing or enlarging from origi- nal transparencies, but the deficiencies of the service, as mentioned above, still apply.

Contrast Masking

Increase in contrast may be avoided by the introduction of a contrast mask when making the duplicate, but unfor- tunately that is a complicated and ex- pensive method, and the cost involved confines the system almost entirely to the professional field.

In spite of the tendency to exag- gerated contrast, however, results are generally acceptable, though the dealer must always be prepared for a fairly high number of complaints for reasons that, as stated, are highly technical and not attributable to carelessness or in- efficiency on the part of the finisher.

When discussing underexposure of colour films with a customer, it is as well to advise that, where colour nega- tives are concerned, no amount of extra exposure can compensate for in- adequate lighting, whether from insuffi- cient sunlight or artificial light.

Colour is light, and weak lighting auto- matically implies weak colours. One has only to watch the sunlight falling on a field as clouds move across the sun to see the vast difference of brilliance in the green of the grass as the sunlight strikes it, in order to appreciate the point to the full. Yet it is amazing how often even experienced photogra- phers fail to realise this. Increased exposure will increase the density of the negative but *not* the degree of colour saturation. Nine times out of ten, where prints are flat or muddy- looking the cause is a combination of underexposure and poor lighting. There are occasions when the exposure, and therefore the density, are adequate, but the results are still flat. In such cases inadequate lighting alone is to blame.

Where masked negatives, that is, nega- tives that have a specific base colour, such as the orange base of Kodacolor, are concerned, it is sometimes difficult, without experience, to judge the quality of the negative in terms of density and colour balance. If, however, the image is strong and clear, then satisfactory prints should result. Weak or dense images may be expected to give prints with an overall colour cast, and there- fore lacking in quality.

Educating the Public

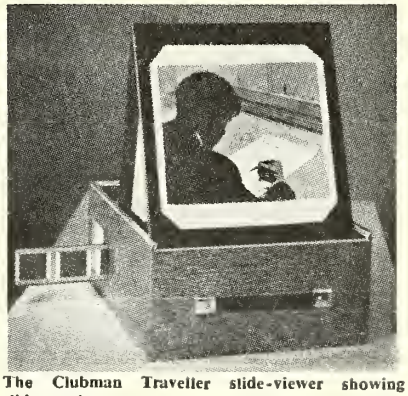
Such, then, are the main causes of complaint. When they arise, a little time spent in explaining the reasons for them will, in due course, produce a public familiar with the complexities of colour processing, and consequently more tolerant if results, for technical reasons, do not come up to their expectations. Timely hints of this nature will do much to smooth the difficulties of colour processing, and to improve customer relations generally.

If, however, after checking, it is felt that a better result should have been possible, then the obvious course is to return the order to the finisher. He will re-examine, and reprint without question if he feels he can obtain a better result, as the final endeavour of both finisher and dealer alike must be to satisfy the customer at all times, even in the highly personal matter of what is acceptable colour balance.

FOR SALESMAN OR TEACHER

A range of back-projection slide viewers

A RANGE of back-projection viewers suitable for use in demonstration is offered by E. Marshall Smith (Bourne- mouth), Ltd., 64 Norwich Avenue, Bournemouth, Hants. On the Clubman Traveller a 300-watt fan-cooled mains- operated model with 10 x 10 in. screen, slides are carried in sets of five in a metal holder with click-stop at the showing position. The slides may, it is understood, be left in position for fif- teen minutes without overheating. The case holds eight slide bars. The mains- operated Clubman Ultimat Advertiser, which may be packed flat for trans- port, has a 20 in. screen illuminated by a 24-volt 150-watt tungsten-halide lamp fitted with continuous self-changing facility. The magazine holds eighty slides. The Clubman Ultimat Teacher is similar but has electric auto-chang- ing with remote control. The Clubman Professional viewer, supplied ready to use but capable of being dismantled, has a 12 x 12 in. screen and has remote controlled auto-change. An economy model of the Clubman projector is also available.



The Clubman Traveller slide-viewer showing slide carrier.

Transistorised Shutters

A CAMERA REVOLUTION

IN today's world of automation the successful product is the one designed to disguise technicalities and put in the hands of the layman an easily operated machine that is, at the same time, easily serviced and fully reliable.

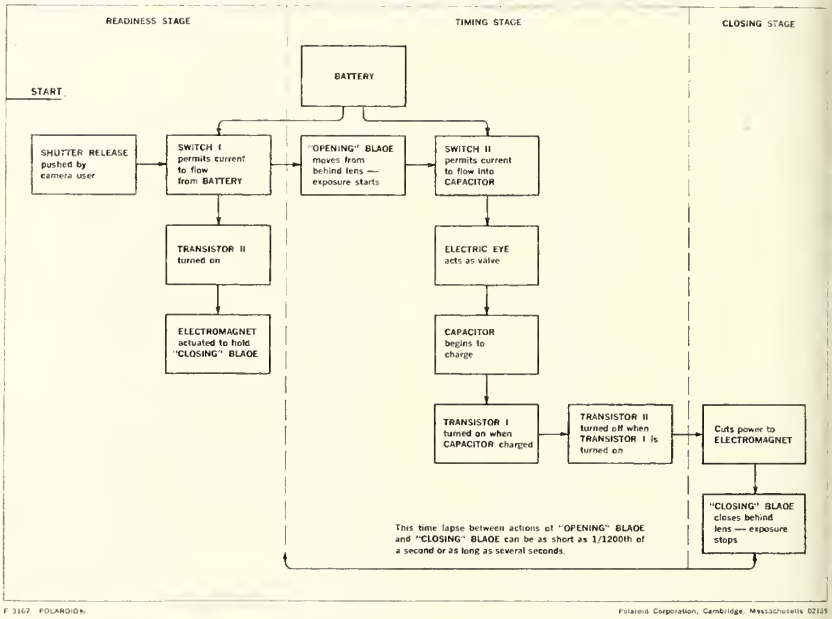
In the field of photography those considerations have led, among other things, to the development of electronically controlled shutters that free the user from the trouble of calculating exposures. There have been technical reasons also behind the search for automatic exposure systems. Mechanical shutters, despite their high state of development, have certain inherent drawbacks. To regulate the timing intervals, leaf-type shutters are usually actuated by spring tension, using a system of mechanical linkages through an escapement similar to that of a watch, Friction, cold, heat, imperfect lubrication, dust, dirt, stickiness caused by oil evaporation—all those factors and many others, prey on the accuracy of the shutter. It is generally accepted —even advertised—that a high proportion of indicated camera shutter speeds are inaccurate by as much as 20 per cent.

A Complex Operation

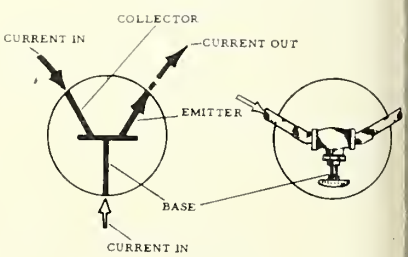
In operation, moreover, the leaf-type shutter has first, while motionless, to overcome inertia, then in turn to accelerate at fantastic speed to full open, stop dead, and instantly *reverse* direction (once again overcoming forces of inertia) then accelerate to high speed and finally clang shut. It is hardly surprising that, in so complex an operation, indicated shutter speeds can represent only average rather than precise intervals.

For those reasons camera engineers looked hopefully for new weapons to electronics, which could slice time into units as small as microseconds (1/10 millionth sec.) with complete precision. The transistor, linked with the tremendously efficient mercury battery, printed circuit boards and new ultra-sensitive photosensors such as cadmium sulphide (the CdS cell), was to provide the answer.

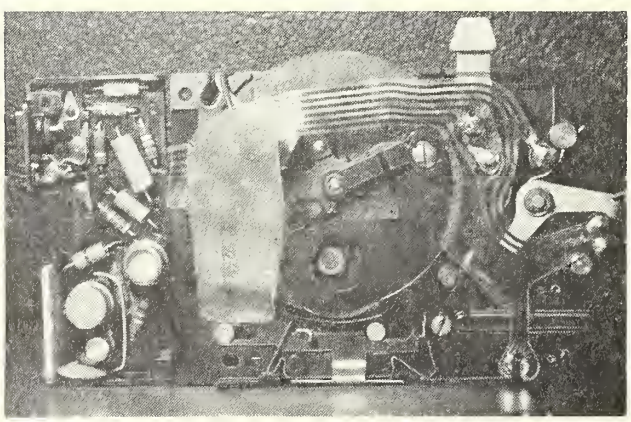
FLOW CHART SHOWING HOW THE SHUTTER ON THE POLAROID AUTOMATIC 100 CAMERA WORKS

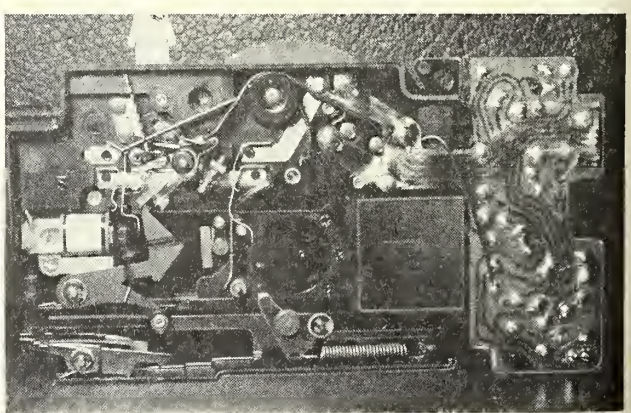

READINESS STAGE
TIMING STAGE
CLOSING STAGE
START
BATTERY
SHUTTER RELEASE pushed by camera user
SWITCH I permits current to flow from BATTERY
"OPENING" BLADE moves from behind lens — exposure starts
SWITCH II permits current to flow into CAPACITOR
TRANSISTOR II turned on
ELECTRIC EYE acts as valve
ELECTROMAGNET actuated to hold "CLOSING" BLADE
CAPACITOR begins to charge
TRANSISTOR I turned on when CAPACITOR charged
TRANSISTOR II turned off when TRANSISTOR I is turned on
Cuts power to ELECTROMAGNET
"CLOSING" BLADE closes behind lens — exposure stops
This time lapse between actions of "OPENING" BLADE and "CLOSING" BLADE can be as short as 1/1200th of a second or as long as several seconds.
F 3167 POLAROID®
Polaroid Corporation, Cambridge, Massachusetts 02139

Until transistors and other electronic development arrived at a high degree of reliability, however, there remained much to be done by photomechanical means. At the end of the 1950's and in 1960 several camera manufacturers introduced photo-electric shutters. Most of the shutters, including the one that Polaroid introduced in 1960, utilised galvanometers. The galvanometer is a delicate instrument with a jewelled movement governed by a hairspring. In the shutters referred to it accepted a reading from a photo-electric sensor cell, usually selenium, and transmitted the reading on to either a precise clockwork timing mechanism or—in the Polaroid models 850 and 900 electric-eye Land cameras—to a pneumatic system involving an air-diaphragm. In the galvanometer and its linkages, dozens of moving parts were involved.

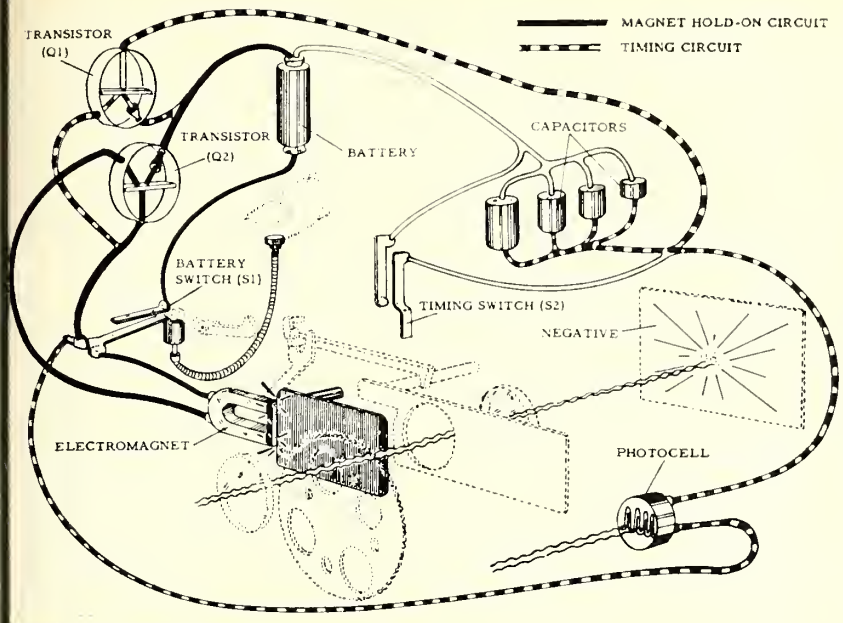


The transistor acts like a valve.





Front (left) and rear views of a Polaroid model 100 colour pack camera showing connection of the transistors and capacitors with the printed circuit board.



Automatic 100 shutter circuitry.

They, too, like the fully mechanical shutter, were prey to atmospheric changes, to friction and to dirt.

In 1963 Polaroid made history by introducing the Polaroid automatic 100 colour-pack camera—the first electronic shutter camera. Since all light-measurement in the camera was completely electronic, the shutter overcame the bugbears of friction, dust and atmospheric conditions. It represented an advance both in degree of precision in exposure automation and in its range (1/1,200 second through to 10 seconds) over most conventional cameras.

Five Chief Parts

The new shutter had only five principal moving parts, and they were of simple design. The double guillotine blades of the shutter operated unidirectionally under a uniform spring tension. Since control signals throughout the circuit were electronic rather than mechanical, each part of the shutter was capable of reacting virtually instantaneously. The transistor was the key.

In the shutter circuit for the model 100 camera (it is similar in the models 101, 103 and 104 introduced in 1965) two transistors are key elements in the operation, acting as "valves" in two interlocking circuits. One circuit holds the shutter closing blade, the other is the timing circuit.

In the hold-on circuit when the button is pressed to take a picture (see diagram—solid line), the battery switch (S1) closes and a circuit is completed between the battery and the electromagnet to hold back the closing shutter blade (the opening blade initially lies across under spring pressure and the negative starts to receive an image). In the hold-on circuit is the transistor Q2, which may be regarded as a simple valve (see diagram). It only passes electric current (in through the collector and out through the emitter) provided sufficient current exists at its base. The base current for Q2—holding the valve "on"—also comes from the battery through the switch (S1). With the shutter open, one problem remains—when to cut the power to the electromagnet, releasing the closing blade. The method is to deprive Q2 of its vital base current, thereby "shutting the valve" and breaking the hold-on circuit. The circuit broken, the electromagnet loses its grip on the closing blade and the shutter closes.

Making that occur at the right time is the job of the timing circuit (see diagram — broken line). Again starting from the battery, current flows through the switch S1 to a photocell. With its valve action, the photocell meters the amount of current reaching the bank of capacitors. The capacitors are devices capable of storing electrical energy. The timing switch (S2) could complete a circuit (diagram clear lined) without involving the capacitors, provided that switch S1 was also closed. But closing S1 (by pressing the camera's shutter-release button) immediately opens S2, so current starts to flow to the capacitors. When the capacitors are full, current "spills over" into the base wire of the second transistor Q1. That "spill-over" current is what is needed to trigger Q1 and make it conduct.

Light and Current

Depending on the light seen by the photocell, the current builds up slowly or more quickly in the capacitors to the pre-determined "spillover" level. Then with sufficient current at the base of Q1 to "open" the valve, the collector and emitter of Q1 can conduct, but where is the current for the collector of Q1 to be obtained?

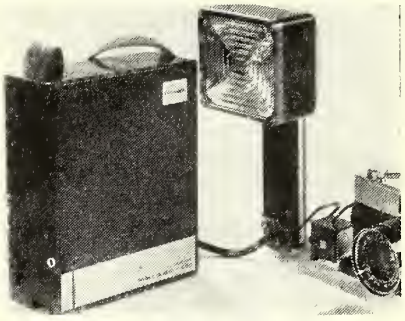
In effect, Q1 robs Q2 of its base current. If Q2 loses its base current it can no longer conduct, and thus the magnetic hold-on circuit is broken, the electromagnet releases its hold on the closing shutter blade, and the exposure is terminated.

So exciting is the concept of such a shutter that it has not failed to capture the imagination of a great many photographers, both amateur and professional. They immediately sensed the advent of a new era in photography. The measure of its success is the extent to which it has been emulated. Electronic shutter systems are in production and developments by Compur, Prontor, Yashica, Nikon and other manufacturers.

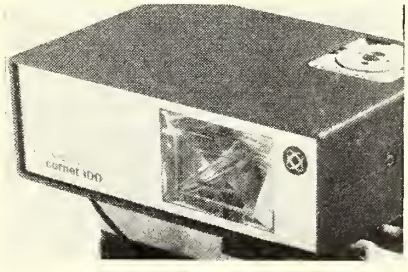
It would not be true to say that shutters of the kind described would be unattainable without the transistor. It would be true, however, to claim that they would be a less concise and reliable amalgam of scientific precision and artistic design than with it they indeed are.

NEW FLASH GUNS

TWO electronic flash-guns for the amateur photographer and a more powerful unit for the professional or advanced amateur are now in the range of Cornet flash-guns distributed



by Pullin Photographic, Ltd., 11 Aintree Road, Perivale, Greenford, Middlesex. The Cornet 100 (40-Joule) operating from dry cells or mains. The Cornet 220, similar but with light output of 60 Joules is powered by a rechargeable nickel-cadmium battery giving 75 "full-power" or 100 "half-power" flashes per charge (at "half power" five seconds). The unit is supplied with a mains charger. The Cornet Matador 400 offers variable outputs of 50-, 100- and 200-Joules. A variable output switch gives automatic compensation of flash factors.



Flashcubes

MAKING FLASH PHOTOGRAPHY SIMPLER AND SPEEDIER

THE recent introduction of Flashcubes by Atlas Lighting, Ltd., is the culmination of many years of development in the field of multiple-flash devices. Many methods have been used over the years—flash-bulbs loaded into turrets of various designs and shapes or loaded in line in magazines—but most such systems have been discontinued because of the high cost of manufacture and the unreliability of the feed into the flash-gun reflector. Generally speaking, reflectors of magazine flash-guns are less efficient than the single bulb guns and their disadvantages led to the development of interconnected bulbs in parabolic reflectors. Those reflectors were moulded into a single strip and flash-bulbs were precisely positioned in relation to the reflector. A transparent plastic cover was then moulded over the bulb and reflector. However, the arrangement was rather cumbersome and still did not entirely overcome the feed problem.

The Instamatic camera of Kodak, Ltd., is considerably smaller than most fixed-focus cameras and when it was introduced in the United States engineers of Sylvania Electric Products, Inc., examined the new camera in detail and began experimenting with many forms of multiple flash that might be used with it. Finally the Flashcube was developed. The speed, versatility and ease of use of the Flashcube quickly confirmed the optimism of the development engineers. On the Instamatic, the cube is fired by the action of the shutter and is automatically rotated to bring the next bulb into firing position for the next exposure.

Messrs. Kodak welcomed the new device and redesigned the Instamatic to utilise the Flashcube. A range of four models is being introduced this year (see *C. & D.*, February 12, p. 152).

Production

Flashcube is well suited to automatic production methods and carries even further many years of progressive miniaturisation of flashbulbs. From the first bulbs, which were comparable in size to a 100 watt household lamp, a steady reduction has been made to the new miniature bulb, 1 in. long and less than $\frac{3}{8}$ in. in diameter. The product is also the fruit of many years of development into combustible materials, glass envelopes and other components. The "sub-miniature" bulbs with their reflectors are anchored to the plastic base and the entire unit is provided with a plastic cover. As a first step towards forming the cube, four bulbs are mounted upright 90° apart on an injection-moulded plastic base. (The lead wires of the bulbs emerge through holes in the base and are brought round an annular ring and securely fastened into the hole on the periphery.

Counter display pack of three Flashcubes, manufactured by Atlas Lighting, Ltd., Thorn House, Upper St. Martin's Lane, London, W.C.2.

In the final stage of assembly the open end of the cover is ultrasonically sealed to the flange of the base. This process seals the two parts together in a bond or weld that is as strong as the cover itself.

To ensure the utmost reliability 132 inspections are carried out before the final packaging and, because of the design advantages in the Flashcube, a reliability level of 99·9 per cent. is considered normal. An important advantage gained from the design of the Flashcube is that the complete unit is capable of being accurately aligned with the lens of the camera. A further advantage is that the reflector is never handled directly during the manufacturing process, or in use, ensuring that the highly polished surface does not become scratched or dulled through contact with the fingers or the atmosphere.

Each bulb in the cube has the Atlas blue safety dot. Should an air leak develop in the seal of the bulb, the blue dot turns pink, indicating that the bulb should not be used. The spectral quality of the cube is balanced to average colour film response and has a colour temperature of approximately 5500°K. The voltage range is 3 to 45, the same as for most other types of flash-bulbs. The igniter base is extremely sensitive, and flashes satisfactorily even when camera batteries are low, but batteries should normally be replaced every six months or after 100 flashes, whichever comes first.

Potential

One of the limiting factors in the widespread use of photo flash-bulbs in Great Britain was the bulkiness and size of photo flash-guns. Even when using equipment of small size with the type 1 and AG1 bulbs, a considerable amount of fumbling occurred, for although it was possible to make the flash-gun smaller, the operator's fingers unfortunately remained the same size. Advent of the Flashcube overcame those difficulties. and through speed and ease of operation and the fact that it is cool to the touch after use, combined with advances that have been made in the design of fixed-focus cameras and the increasing acceptance of this type of equipment by the public, it is expected that the greatest application for Flashcube will be with that type of camera.

Flashcube is manufactured in the United Kingdom by Atlas Lighting, Ltd., a subsidiary of British Lighting Industries, Ltd. and supplies of Atlas manufactured Flashcubes become available in April.

EIRE D. & P. EXPANSION

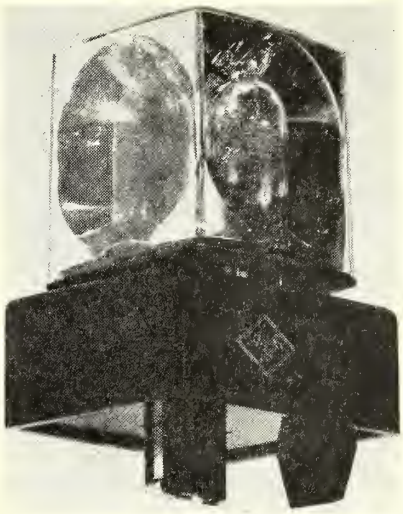
THE processing plant of Lyall Smith Laboratories, Ltd., 47 Terenure Road East, Rathgar, Dublin, 6, is now equipped to cover all Ireland, both North and South. The laboratories were established over thirty years ago by Mr. Lyall G. Smith, a Dublin pharmacist, who commenced a developing and printing business for black-and-white films at the rear of his father's pharmacy. The business continued to grow until, with the coming of colour photography, it had to be moved into the present larger premises. A merger has now taken place with MacSweeny Photo Services, 91 Patrick Street, Cork (owned by Mr. E. J. MacSweeny, M.P.S.I.). As a result, Rathgar laboratories are doing the colour processing for both companies, and the MacSweeny works is processing all black-and white films. A fast collection service operates all over the counties of Cork, Waterford, Kerry and Limerick collecting colour films from and returning them to the company's Cork depôt. A four-day service is provided. For the first time the Lyall Smith Laboratories offer a service to photographic dealers in Northern Ireland. From March 28 Agfacolor, Kodacolor and Gevacolor films are being received on behalf of the Laboratories by William C. Knox at 241 Lisburn Road, Belfast, 9. Mr. Knox, who will be in charge of the Belfast depôt, has for many years been well known to chemists and photographic dealers of Northern Ireland. In Belfast and the surrounding area a collection and delivery service is being operated, and orders from Northern dealers outside that area are being mailed to the Belfast depôt, from which a regular and speedy service is being provided.

A NEW MULTIFLASH CAMERA

AGFA Ltd., 27 Regent Street, London, W.1, have a new camera in their Rapid range—the Iso Rapid "C" (for ube). The camera has been designed or the Sylvania Cube Flash system and also accepts the Flashcubes of Atlas Lighting, Ltd.). Controls have een redesigned for simpler operation.

he two-speed shutter operates at /40th and 1/80th sec. with selection y weather symbols. The fitting of the lashcube automatically sets the amera shutter to 1/40th of a second or flash photographs. The camera has fixed focus f/8·2 Agfa Achromat lens. upplied as complete outfit contains amera, black and white film, three lashcubes, battery and ever ready ase. Messrs. Agfa are also marting an adapter for converting their o Rapid IF camera to take the new Flashcube. Plugging into the built-in flash system of the Iso Rapid IF, it fits over the "pop up" flash gun, which stays in the down position. The Flashcube is turned manually after each exposure.

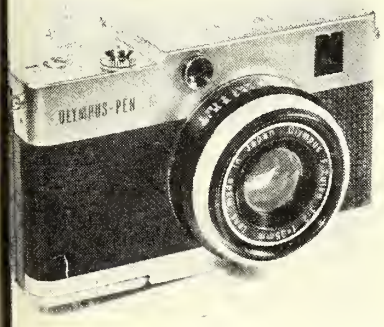
A recent announcement states that the company has received an initial supply of Agfacolor CK.17, a new colour ciné film, with speed rating of 17°DIN/40 A.S.A. Available for both Super 8 and standard 8. Stated advantages are extremely fine grain, excellent definition and a wide exposure latitude. The film is balanced for artificial light.



CAMERAS AND CASES

New Camera from Germany. — A ew camera—the Contarex Professional -to replace the discontinued Contarex pecial has been announced by Zeiss on AG, Stuttgart, Western Germany. he camera is without built-in expore meter.

Motorised Half-frame Camera.—The lympus Pen EM half-frame camera stributed by Pullin Photographic, td., 11 Aintree Road, Perivale, Greenord, Middlesex, employs a new type electronic shutter, the Copal Elec, hich automatically gives the correct



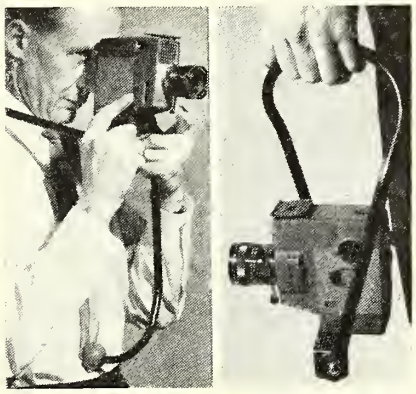
posure between 30 and 1/500 sec. cording to preselected aperture setg, subject brightness and film speed. otorised film advance operates autoatically immediately exposure is ade. Rewind is also motorised. Exsures may be set manually.

Hermetically Sealed Camera Cases.—Commercial Drug and Chemical Co., Ltd., 460 Holloway Road, London, N.7, have brought out improved versions of their Custom aluminium pro-

fessional cases (new types of locks and hinges, new sizes). The cases are "hermetically sealed" by gasket rim when closed. They are of lightweight die-cast aluminium with reinforced ribbing and have a Foamex lining to protect equipment.

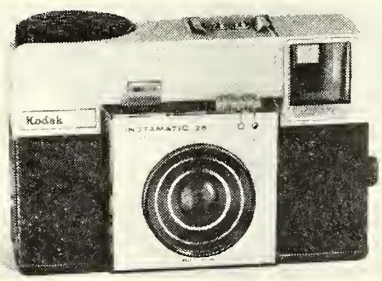
Added to Range.—Latest model in the 3C's range of cameras marketed by Co-operative Wholesale Society, Ltd., and available to Co-operative chemists, is the Beirette K, which features the new Rapid-loading system of Agfa, Ltd. Instead of the usual lever, a sliding knob on the back of the camera actuates the film transport. The Meritar f/29 lens of the camera focuses down to 2 ft. Shutter speeds of 1/30, 1/60, and 1/125-sec. and brief time are provided. The model has a suspended frame view-finder and an all-metal body. It is supplied with a free film and complete with case. Also in the 3C's range is a splicer suitable for 16-mm. and 8-mm. and Super 8 cine films; it has a built-in scraper, spare scraper blade, separate cutter on each side plate and spring-loaded pressure plates. Inquiries should be made to any of the Society's photographic departments in Manchester, London and Newcastle upon Tyne and Cardiff.

Cine-camera Carrier.—A lightweight carrying and steadying device for use with all types of ciné cameras — the Clydebuilt shoulder holder—is made and marketed by Innes Walker Engineering Co., Ltd., Brown Street, Paisley,



Renfrewshire. Main advantage claimed for the holder is that it is self-supporting in use, leaving both hands free to operate controls. Being flexible, it enables the camera to be turned or tilted in any direction simply by moving the body. An adapter is available that allows the holder to be used with 35-mm. still cameras.

A Model With Larger Viewfinder.—Latest in the range of Instamatic cameras produced by Kodak, Ltd., Kodak House, Kingsway, London, W.C.2, the Instamatic 25 camera, is similar to other models but has been redesigned

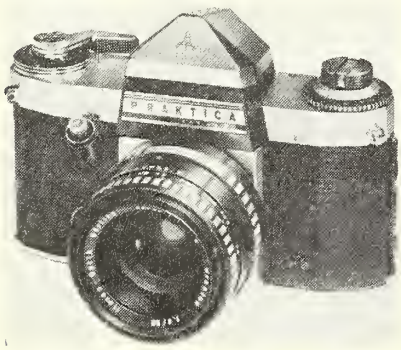


with large viewfinder. Instead of a lever-wind film advance there is now a large winding knob on top of the camera, which also has a double-exposure prevention device. A shoe mounted on the camera takes an accessory flash-holder.

Policy Change.—Coronet, Ltd., 308 Summer Lane, Birmingham, 19, are henceforth manufacturing cameras only against firm bulk orders, though orders for standard models are being met while stocks last. Supply of films and imported 35-mm. cameras and binoculars is unchanged, and the ser-

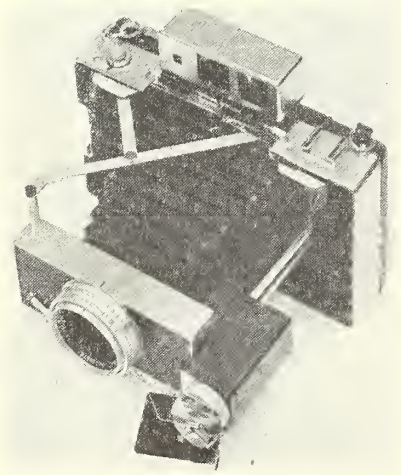
vice department continues to operate. Under the new policy the company's entire manufacturing resources are being reserved this year for the Coromatic 50 camera with two-speed fully-synchronised shutter. The camera takes Kodapak film cartridges.

Hand - built. — The Prakticamat through-the-lens reflex camera, which is distributed in the United Kingdom by C.Z. Scientific Instruments, Ltd., 93 New Cavendish Street, London, W.1, has a metering system in which light is reflected from a one-way beam-splitter above the focusing screen on to a CdS cell the width of the pentaprism housing. The CdS cell is a flat rectangular "sandwich" approximately



1·75 x 0·6 in. providing a range of film-speed settings from 6 to 3,200 ASA. The one-way beam-splitter arrangement is understood to obviate the need for complicated cells to compensate for light entering the view-finder in the circuit. The meter is actuated by depressing a button on the front of the camera or by taking first pressure on the shutter release. The absence of an on/off switch being claimed to increase considerably the battery life. A re-designed focal-plane shutter is speeded from 1-1/1,000 sec.; with full flash synchronisation. Lens is six-element 50-mm. f/1·8 Oreston.

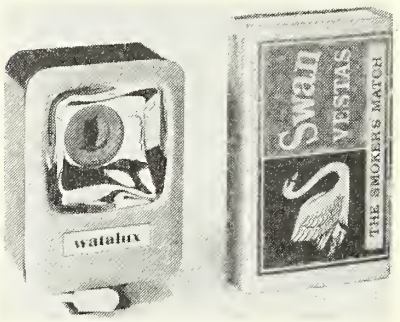
Professional Camera.—A new professional "instant-picture" camera, the Polaroid model 180 Land, by Polaroid (U.K.), Ltd., Queensway House, Queensway, Hatfield, Herts, has an f/4·5 Tominon lens with apertures ranging to f/90 and between-lens shutter with speeds from 1 to 1/500-sec. and bulb. The camera provides an ex-



posure ratio greater than 175,000-to-1. It uses the existing Polaroid Land eight-exposure film pack, producing $3\frac{1}{4} \times 4\frac{1}{4}$-in. prints. The Tessar-type lens (focal length 114 mm.) is coated on all air-to-glass surfaces. The shutter is synchronised for both flash-bulbs and electronic flash and has a built-in self-timer. The flashgun, called a "focusing flash," is simultaneously coupled to the focusing mechanism when clipped on the camera, automatically controlling the brightness of the flash as the camera is focused.

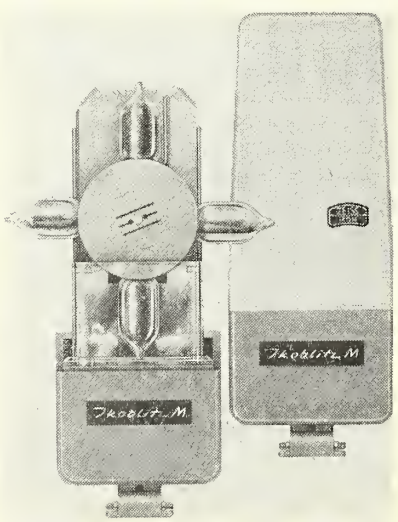
FLASH-GUNS AND FITTINGS

"Dual" Flash-gun.—Photopia, Ltd., Newcastle, Staffs, can supply from stock a new dual flash-gun, the Watalux Super, measuring $1\frac{3}{4} \times 1\frac{1}{4} \times 2\frac{3}{4}$ in. and finished in two-tone grey plastic. The bulb-holder automatically sets itself to make contact when either

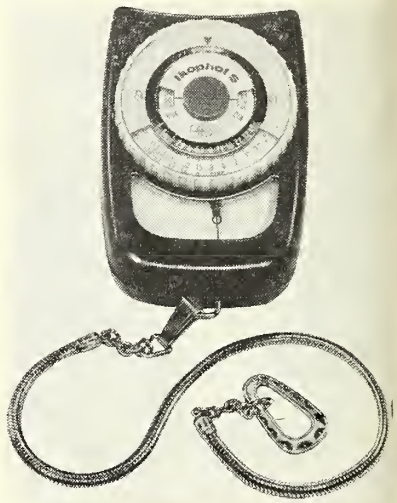


AG1 or PF1 flashbulbs are pushed into the socket. The foot of the gun contains a contact to couple with the camera accessory-shoe type of synchronisation and for coaxial plug-in sockets a synchro-lead is provided. A test lamp in the gun operates from a standard 15-volt battery.

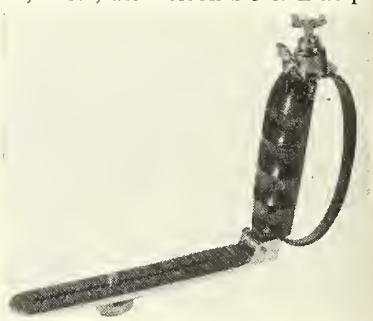
Four-shot Flash-gun.—The new Ikoblitz M Zeiss Ikon multi-flash unit allows four flash photographs to be taken in rapid succession without



change of bulb. The unit may be loaded with either AG 1 or AG 3 bulbs and is small enough to be carried on camera strap or in the pocket. An f/stop calculator is fitted and the gun may, as desired, be supplied with either a synchroniser cord or cordless contact. Its power source is a standard 15-volt battery. Distributors are Degenhardt & Co., Ltd., 20 Mortimer Street, London, W.1. A new Zeiss Ikon exposure meter, the Ikophot S, is an improved version of the Ikophot. It has jewelled bearings and temperature-compensated circuit, shutter speeds from 1/1,000 sec. to 30 min., and f/stops from 1 to 45.



"Flash" Brackets. — Of two flash brackets, each with collapsible vertical arm, recently introduced by J. J. Silber, Ltd., 11 Northburgh Street, London, E.C.1, the Velbon S-3 is L-shaped



with accessory shoe on the arm, rubber grip and rubber-covered platform; the V-5 has a heavier grip and wrist-strap, with accessory shoe on a ball-and-socket attachment.

CINE FACILITIES

Now on Tape.—Custom music for 8-mm. recently introduced by Commercial Drug & Chemical Co., Ltd., 460 Holloway Road, London, N.7, for adding background to slide or film shows, is now available on twin-track tape.

Film "Editor" from Japan.—The Ohnar-Vu "editor," imported from Japan by Bush & Meissner, Ltd., 91 Marylebone High Street, London, W.1, is available for both Super-8 and standard 8-mm. films. With 96 x 72 mm. Fresnel screen, framing, focusing and film notching controls the "editor" takes reels up to 400 ft. capacity.

TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON, MARCH 23: The level of trading among CRUDE DRUGS was little changed during the week from the pattern set in recent weeks.

The forward rates for CARDAMOMS were easier but because of the scarcity on the spot the price was unchanged for prompt delivery. In CINNAMON origin was asking less for Seychelles BARK and Ceylon QUILLS. Portuguese ERGOT was sixpence per lb. lower in both positions and Jamaican GINGER on the spot was down 5s. cwt. following cheaper quotations from origin. Costa Rican IPECACUANHA was being offered again for shipment after an absence of several months; however, supplies remain tight and prices firm from all sources. Dearer per lb. were Brazilian JALAP (by one penny); SENEGA (by 1s. 6d.) and STYRAX (by sixpence). PEPPERS were lower and Chinese MENTHOL at 31s. per lb., in bond, was down 1s. 6d. Shipment (in tons) of Tinnevelly SENNA from Tuticorin during February were as follows:—

SENNA	U.K.	Buenos Aires	Europe
LEAVES	2	83	7
PODS	1	—	—

Among ESSENTIAL OILS the market for Chinese ANISE improved and prices were about threepence per lb. dearer. Ceylon CITRONELLA for shipment was firmer by a similar amount also but spot holders did not adjust their offers. Brazilian BOIS DE ROSE was in demand and quotations were about threepence per lb. up on recent levels. Other changes were in a downward direction and included Chinese and Brazilian PEPPERMINTS (down threepence per lb.); Indian CELERY SEED (by 2s. 6d. lb.); LEMONGRASS for shipment (sixpence kilo); and Chinese SPEARMINT (5s. 6d. kilo).

In PHARMACEUTICAL CHEMICALS a number of important VITAMINS were substantially reduced. They included ANEURINE HYDROCHLORIDE (down 15s. kilo) and the MONONITRATE (down 1s. 6d.); PYRIDOXINE (down 47s. 6d.) and RIBOFLAVINE (down 25s.).

Pharmaceutical Chemicals

Prices below may be subject to temporary import surcharge.

ALUMINIUM CHLORIDE.—Pure, in 50-kilo kegs, 6s. 1d. per kilo.

ANEURINE.—HYDROCHLORIDE (per kilo) in one-kilo lots, 103s. 6d.; 10-kilos, 101s. The MONONITRATE is 107s. and 104s. 6d. for similar quantities.

AMIDOPYRIN. — Per lb. 16s. 8d. for 5-cwt. lots; 1-cwt., 17s. 5d.

AMPHETAMINE. — BASE is 150s. per kilo in 5-kilo lots and SULPHATE, 120s.; DEXAMPHETAMINE, 270s. per kilo for 10 kilos.

AMYLOBARBITONE. — B.P.C. is 74s. per kilo for less than 25-kilo lots. SODIUM is 70s. per kilo more.

BARBITONE. — SODIUM derivative is 36s. 8d. per kilo for 50-kilo lots.

BISMUTH SALTS.—(Per kilo):—

Quantity	Under 50	50	250
	s. d.	s. d.	s. d.
CARBONATE ...	77 10	76 0	75 0
SALICYLATE ...	72 4	70 6	—
SUBGALLATE ...	67 10	66 0	—
SUBNITRATE ...	71 10	70 0	69 0

BUTOBARBITONE. — B.P.C., 80s. per kilo for 25-kilo lots and over.

CITRATES.—(Per kilo):—

	50 kilos	250 kilos	1,000 kilos
	s. d.	s. d.	s. d.
SODIUM ...	5 4	4 10	4 8
POTASSIUM ...	5 7	5 1	4 11
IRON AND AMMONIUM ...	9 8	9 4	9 1

COCAINE. — 35-oz. lots HYDROCHLORIDE, 105s. per oz., ALKALOID, 115s. per oz. Subject to D.D.A. Regulations.

CORTISONE. — One-kilo lots, ACETATE 4s. 6d.; HYDROCORTISONE ACETATE or ALCOHOL, 4s. 6d. per gm.

CREAM OF TARTAR.—Home-trade:—One-ton lots, 241s. per cwt.; 10-cwt., 242s.; 5–9-cwt., 243s.; 2–4-cwt., 244s.; 1-cwt., 245s. (If supplied in bags deduct 5s.)

CYCLOBARBITONE. — Under 25 kilos: 73s. per kilo. CALCIUM, 80s. per kilo.

ERGOMETRINE.—MALEATE, B.P., 152s. per gm. for 5-gm. lots; ERGOTAMINE TARTRATE, 29s. 6d. per gm. for 100-gm. lots.

GLYCERIN.—Chemically pure, B.P. (per cwt.).

	Over 25 tons	5 tons and under 25 tons	1 ton and under 5 tons	Under 1 ton
TANK WAGONS	s. d.	s. d.	s. d.	s. d.
10-14 tons	186 0	—	—	—
5-10 tons	187 6	189 6	—	—
DRUMS				
5 cwt.	190 0	192 0	195 0	201 0
2½ cwt.	193 0	195 0	198 0	204 0
TINS				
56 lb.	197 0	199 0	202 0	208 0
28 lb.	219 0	221 0	226 0	235 0
14 lb.	223 0	225 0	230 0	239 0

Minimum delivery 2½ cwt. Drums charged and returnable. Tins and cases free. Minimum terms for technical grade glycerin s.g. 1.2627 are 181s. per cwt. for lots of over 25 tons in bulk deliveries of 10–14 tons.

GUAIACOLS. — LIQUID, B.P.C., 16s. per lb. for 1-cwt. lots; CRYSTALS, 15s. 9d.; CARBONATE, 18s.

HEXAMINE. — B.P., 1s. 6d. per lb. for 1-ton lots, delivered in 1-cwt. bags. Technical is 1s. 5d. per lb.

HEXAMINE MANDELATE. — 50 kilo lots, 27s. per kilo; 1,000 kilos, 23s. 6d.

HEXOBARBITONE. — 25-kilo lots or over, 115s. per kilo.

NARCOTINE. — ALKALOID and HYDROCHLORIDE, 11s. 4d. per oz. (399s. 6d. kilo) for under 35-oz. lots. Containers below 1-kilo charged 1s. 6d. per container.

OPIATES.—Home trade prices (per kilo) subject to D.D.A. Regulations.

	1 kilo and over	Under 1 kilo
	s. d.	s. d.
CODEINE		
ALKALOID ...	1,903 0	1,939 0
HYDROCHLORIDE ...	1,665 0	1,701 0
PHOSPHATE ...	1,445 0	1,480 0
SULPHATE ...	1,665 0	1,701 0
MORPHINE		
ACETATE ...	1,762 0	1,798 0
ALKALOID ...	2,159 0	2,194 0
HYDROCHLORIDE ...	1,762 0	1,798 0
SULPHATE ...	1,762 0	1,798 0
TARTRATE ...	2,115 0	2,150 0
ETHYLMORPHINE		
ALKALOID ...	2,229 0	2,265 0
HYDROCHLORIDE ...	1,903 0	1,939 0
DIAMORPHINE		
ALKALOID ...	2,106 0	2,141 0
HYDROCHLORIDE ...	1,930 0	1,965 0

PETHIDINE HYDROCHLORIDE. — Subject to D.D.A. Regulations, 5-kilo lots, 300s. per kilo.

PHENOBARBITONE. — Spot rates 50-kilo lots, 47s. 6d. per kilo. SODIUM SALT, 54s. 6d.

PHOLCODINE. — 8-oz. lots, 95s. 9d. per oz. (3,377s. per kilo).

PHTHALYL SULPHATHIAZOLE. — Five-kilo lots, 31s. per kilo.

PYRIDOXINE. — One kilo, £19 12s. 6d. per kilo; 10 kilos, £19 per kilo.

QUINALBARBITONE.—SODIUM and ACID are 105s. for less than 25-kilo lots.

RIBOFLAVINE. — One-kilo, 192s. 6d. and 10 kilos, 187s. 6d. per kilo.

SUCCINYL SULPHATHIAZOLE. — Five-kilo lots, 32s. 6d. per kilo.

SULPHACETAMIDE. — 50-kilo lots, 54s. per kilo; SODIUM, 55s.

SULPHADIAZINE.—Five-kilo lots, 65s. per kilo; 50-kilo lots, 60s.

SULPHADIMIDINE. — 50-kilo lots are 60s. per kilo.

SULPHAGUANIDINE.—100-kilo lots, about 19s. 6d. per kilo.

SULPHAMETHIAZOLE. — Per kilo, 50-kilo lots, 100s.; 50-kilos, 95s.

SULPHANILAMIDE.—50-kilo lots, 13s. 1d. per kilo.

SULPHAPYRIDINE.— Five-kilo lots, 120s. per kilo.

SULPHATHIAZOLE. — 100 kilos, 32s. per kilo; 50 kilos, 33s.

Industrial Chemicals, Solvents

ACETALDEHYDE. — The 100 per cent. is £122 per ton minimum 1-ton lots.

ACETATES. — Per ton, spot in drums: AMYL, technical, £251 and B.S.S., £253. BUTYL, £128; ETHYL, £103; ISOBUTYL (80 per cent.), £105 and pure, £108; ISOPROPYL, £110; METHYL, 80 per cent., £142.

ACETIC ANHYDRIDE. — 12-ton lots £103 per ton; 2½-ton, £107, tanker deliveries.

ACETONE. — One-ton lots spot £68 per ton in drums.

N-BUTYL ALCOHOL. — One-ton lots in drums, £127 per ton and one-drum lots, £136 per ton.

CARBON TETRACHLORIDE. — In 40-gall. drums, 1 ton and under 2 tons, £83 15s.; 4 tons and upwards, £82 5s.

HYDROCHLORIC ACID.—Commercial grade £17 2s. 9d. per ton ex works, in carboys.

ISOPROPYL ALCOHOL. — Technical grade (99 per cent.) in tank car lots from 4s. 6d. to 4s. 8d. per gall.; anhydrous in drums, 7s. 1d. to 7s. 4½d. per gall.; in bulk, 6s. 11d. to 7s. 1d.

METHYL ETHYL KETONE. — One-ton lots, £103 per ton.

NAPHTHALENE. — Contract rates for phthalic grade are from £25 per ton in bulk, ex works; lower crystallising whizzed grades from £20 to £25 per ton ex works; ball and flake, £71.

PHTHALATES. — Prices (per ton) one-ton lots in drums: DI-BUTYL, £159; DI-ISOBUTYL, £154; DI-ETHYL, £171; DI-METHYL, £161.

PHTHALIC ANHYDRIDE.—Domestic material ex contract, £88 to £90 per ton.

SODA ASH. — Four-ton lots, from 300s. per ton delivered.

STEARATES.—Minimum 1-ton lots, ALUMINIUM (No. 1), £243 10s. per ton and (non-gel.), £281; CALCIUM (precipitated), £243 10s.; LEAD (30 per cent.), £245; MAGNESIUM (standard), £257 and (superfine), £287. ZINC, £246 to £276 as to grade.

SULPHURIC ACID.—95° Baumé, £17 11s. per ton ex works, in carboys.

Crude Drugs

ACONITE. — Spot, Spanish *napellus*, 2s. 4d. per lb.; shipment, 2s. 3d., c.i.f.

ALOES. — (Per cwt.). Cape primes, spot, 255s.; shipment, 250s., c.i.f. and Curaçao, 265s. spot; shipment, 260s., c.i.f.

ANISE. — Chinese, STAR, 150s. per cwt. spot, duty paid; f.a.q. for shipment, 120s., c.i.f.

ANNATTO. — Madras, f.a.q. seed, spot, 290s. per cwt.

BELLADONNA.—LEAVES, 6s. per lb., spot; shipment, 5s. 6d., c.i.f. ROOT, 1s. 8d. per lb., spot; shipment, 1s. 7d., c.i.f.

BUCHU.—Spot, 5s. 9d. per lb. nominal; shipment, 5s. 3d., c.i.f.

BENZOIN.—Sumatra block, spot from £20 to £40 per cwt. as to quality.

CAMPHOR. — B.P. powder for shipment, 5s. 3d. per lb., c.i.f.; spot, 6s. 3d., duty paid.

CARDAMOMS.—(Per lb.). Alleppy greens, spot, 32s. 6d. Shipment, 37s. 6d., c.i.f. nominal. Ceylon greens, 33s., c.i.f., and 35s. spot. Prime seed, none available spot or shipment.

CINNAMON.—BARK. Seychelles, 165s. cwt. spot; shipment, 115s., c.i.f.; QUILLS, Ceylon (per lb., c.i.f.); Seconds, 9s. 10½d.; thirds, 9s. 10d.; quillings, 5s. 9d.; chips, 1s. 9d.

ERGOT. — Portuguese—Spanish, spot, 13s. per lb.; shipment, 12s. 6d., c.i.f., nominal. Continental, 9s. 6d., spot.

GINGER.—(Per cwt.). Nigerian split, 95s. spot; 85s., c.i.f., for shipment; peeled, 210s. spot and 185s., c.i.f. African, spot, 240s., shipment, 220s., c.i.f. Jamaican No. 3 spot, 335s., shipment, 290s., c.i.f.; Cochin, spot, 265s.; shipment, 250s., c.i.f.

GUM ACACIA.—Kordofan cleaned sorts, 162s. 6d. per cwt., spot; shipment, 152s. 6d., c.i.f.

IPECACUANHA. — Matto Grosso for shipment, 54s. per lb., c.i.f. and spot, 55s. Costa Rican, 76s. nominal, spot; shipment, 74s., c.i.f. Colombian, spot, 56s. nominal; shipment not offering.

JALAP.—Mexican whole bulbs, 4s. 6d. per lb. on spot; shipment, 4s. 3d., c.i.f. Brazilian, 1s. 9d. per lb. spot.

KARAYA.—No. 1 f.a.q. gum, spot, 415s.; No. 2, 300s. per cwt.

KOLA NUTS. — West African halves are nominally 8d. per lb. on the spot. Good quality replacements scarce.

LANOLIN. — ANHYDROUS, B.P., is from 2s. 6d. to 2s. 10d. per lb. in 1-ton lots delivered free drums. Commercial grades from 1s. 9½d.

LIME FLOWERS.—Spot short at 2s. 2d. per lb.

LINSEED. — Whole, 72s. 6d. per cwt.; crushed, 110s.

LIQUORICE. — Natural root: Russian, 67s. 6d. per cwt.; Anatolian, 57s. 6d.; Anatolian decorticated, 170s. Block juice: Anatolian, 210s. to 220s. per cwt.; Italian stick from 395s. to 460s. per cwt.

LOBELIA.—Dutch on the spot, 4s. 9d. per lb.; shipment, 4s. 6d., c.i.f. American, 13s. per lb. spot.

LYCOPODIUM.—Indian triple-sifted, 8s. 6d. per lb., spot.

MACE.—Whole No. 1, 15s. per lb., f.o.b. for forward delivery.

MENTHOL.—(Per lb.). Chinese for shipment, 30s. 3d., c.i.f.; spot, 31s. in bond; Brazilian for shipment, 36s., c.i.f.; spot, 36s., in bond.

MERCURY.—Spot £160 per flask of 76-lb. ex warehouse.

NUTMEGS.—(Per lb.). West Indian, spot, 80's 13s. nominal; defectives afloat, 8s. 2d., c.i.f.; sound unassorted, 10s. East Indian for shipment b.w.p., 5s. 10½d., c.i.f., and 6s. 6d., spot; 80's 12s. 10½d., c.i.f.; 110's, 11s., c.i.f.

NUX VOMICA.—Cochin, 110s. per cwt. on the spot; shipment, 80s., c.i.f.

ORANGE PEEL. — Spot: Sweet ribbon, 1s. 8d. per lb., bitter quarters: West Indian, 10½d.; Spanish, 1s. 9d.

PAPAIN. — A parcel of East African is offered at 15s. 6d. per lb. on the spot.

PEPPER. — White Sarawak spot quoted at 3s. 10½d. to 4s. per lb.; shipment, 3s. 9d., c.i.f. Black Sarawak, 3s. 2d., spot; shipment, 2s. 11¾d., c.i.f. Black Malabar spot not available, shipment, 350s., c.i.f.

PIMENTO. — No offers on spot or for shipment.

PODOPHYLLUM. — Spot per cwt.: *Emodi* 220s., spot; shipment, 205s., c.i.f.

QUILLAIA.—For shipment, 165s. per cwt. c.i.f.; spot, 165s.

RHUBARB. — Various grades offered at from 5s. to 15s. per lb.

SAFFRON.—Mancha superior, spot, 725s. per lb.; Rio, 700s.

SARSAPARILLA. — Jamaican native red, spot, 3s. 6d. per lb.; shipment, 3s. 3d., c.i.f.

SEEDS.—(Per cwt.). ANISE.—Spanish, 240s.; Turkish, 165s., in bond, 187s. 6d., duty paid. CARAWAY.—Dutch, 167s. 6d., spot. CELERY.—Indian, 165s., spot; shipment, 137s. 6d., c.i.f. CORIANDER.—Moroccan, 65s., Rumanian whole seed, 65s. Rumanian splits, 55s., all duty paid; shipment, Moroccan dearer at 62s. 6d., c.i.f., quoted. CUMIN. — Spot, Cyprian, 350s.; Indian, 325s.; Moroccan, 350s., duty paid; Syrian, 335s., duty paid; shipment, Indian, 260s.; Moroccan, 320s., both c.i.f. DILL.—Indian, 130s., spot; shipment, 100s., c.i.f. FENNEL.—Chinese, 130s., duty paid; Indian, 150s.; shipment, Chinese, 112s. 6d., c.i.f.; Indian, 140s., c.i.f. FENUGREEK. — Moroccan, 67s. 6d., duty paid; shipment dearer at 54s., c.i.f. MUSTARD.—English, 72s. 6d. to 95s. according to quality.

SENEGA.—Spot, 26s. per lb., nominal.

SENNA. — (Per lb.). Tinnevelly LEAVES spot: Prime No. 1, 2s.; No. 3, f.a.q., 1s. Shipment: No. 3, 1s., c.i.f. PODS: Tinnevelly hand-picked, 1s. 8d. to 2s. as to quality: spot, manufacturing, 1s. 1d.; shipment, 11d., c.i.f. Alexandria PODS: Hand-picked from 6s. to 8s.; manufacturing, forward, 2s. 3d., c.i.f.; spot, 2s. 6d.

SLIPPERY ELM BARK. — Spot offered at 4s. 6d. per lb.

SQUILL.—Italian, spot, 130s. per cwt.; shipment, 110s., c.i.f.

STRAMONIUM.—Continental LEAVES, 85s. per cwt., spot.

STYRAX.—Spot, nominally 18s. per lb.; no shipment offers.

TONQUIN BEANS.—Para, spot, 5s. 6d. per lb.; shipment, 5s. 6d., c.i.f.

TRAGACANTH.—Ribbon, No. 1, £175 to £180 per cwt.; No. 2, £160.

TURMERIC. — Madras finger, spot, 120s. per cwt.; shipment, new crop, 112s. 6d., c.i.f.

VALERIAN ROOT.—Indian, spot nominally 350s. per cwt.; shipment not offered. Continental root, 450s. nominal spot; no shipment offers.

VANILLIN.—(Per lb.). 5-cwt. lots, 21s. 6d.; 1-cwt., 21s. 9d.; 56-lb., 22s.; small quantities, 22s. 6d. All plus temporary import surcharge.

WAXES. — (Per cwt.). BEES' — Dar-es-Salaam, 425s., shipment, 405s., c.i.f., Sudanese, spot, 400s., in bond nominal; shipment, 365s., c.i.f. CANDELILLA, spot, 465s.; forward, 460s., landed. CARNAUBA, fatty grey, spot, 280s.; shipment, 250s., c.i.f.; prime yellow spot, 580s.; shipment, 475s., c.i.f.

WITCH HAZEL LEAVES.—Spot quotations are 4s. 3d. per lb. nominal; prompt shipment, 4s., c.i.f.

Essential and Expressed Oils

ALMOND.—Spanish sweet oil is 6s. 9d. per lb. spot.

ANISE. — Chinese, 9s. 4d., spot, shipment, 9s. 2d., c.i.f.

BAY.—From 41s. 6d. lb. on the spot.

BERGAMOT.—Spot, 170s. per lb.

BOIS DE ROSE.—Brazilian spot, 16s. 9d.; shipment, 16s. 3d., c.i.f.

CALAMUS.—Spot from 50s. per lb.

CAMPHOR, WHITE. — Chinese for shipment, 4s. 4d., c.i.f., per kilo; spot, 2s. 6d. lb., duty paid.

CANANGA.—Spot from 45s. to 50s. per lb.

CASSIA.—Spot from 35s. to 40s. per lb. for 80–85 per cent.

CEDARWOOD. — American from 7s. 6d. per lb. on the spot; East African, 8s. 6d.

CELERY SEED.—Indian, 100s. per lb.; English, 200s.

CHENOPODIUM.—From 38s. per lb.

CORIANDER.—From 40s. per lb. spot.

CUMIN.—English distilled oil, 120s. per lb., imported 90s. to 100s.

FENNEL. — Spanish sweet, 16s. per lb., duty paid.

GERANIUM. — Bourbon, 87s. 6d. to 92s. 6d., spot; Algerian, 75s.

GINGER. — Imported (per lb.); Indian, 165s.; Chinese, 75s.; Jamaican, 132s. 6d.

GRAPEFRUIT.—Spot quoted at 7s. per lb.

JUNIPER. — B.P.C. is 32s. 6d. per lb. JUNIPER WOOD, from 6s.

LAVANDIN. — From 28s. to 32s. 6d. per lb. as to quality.

LAVENDER. — French from 40s. to 60s. per lb. as to quality.

LAVENDER SPIKE. — From 37s. 6d. per lb. on the spot.

LEMON.—Sicilian from 26s. to 36s.

LEMONGRASS. — Spot, 25s. per kilo; shipment, 24s. 3d., c.i.f.

LIME. — West Indian distilled, 65s. per lb. on the spot.

NUTMEG.—East Indian B.P. oil is about 73s. 6d. per lb. English distilled, 110s.

OLIVE. — For shipment: Spanish, £230-£240 per metric ton, f.o.b. Spanish port, Tunisian, £240 to £250 per metric ton, c. and f., London. Spot, £295 to £300 per long ton, in drums, ex wharf.

ORANGE.—Cold-pressed sweet oil, 4s. 9d. to 6s. per lb.; Spanish, 16s.

PALMAROSA. — Shipment, 185s. per kilo, c.i.f.; spot nominal.

PATCHOULI. — Spot nominal; shipment, 120s. per lb., c.i.f.

PENNYROYAL. — Spot, 15s. per lb. duty paid; forward position is firm at 17s., duty paid.

PEPPERMINT.—(Per lb.). *Arvensis:* Chinese for shipment offered at 12s. 9d., c.i.f., and spot, 12s. 9d. Brazilian for shipment, 13s. 3d., c.i.f.; spot, 13s. 3d. *Piperita:* Italian spot, 72s.; forward shipment, 82s. 6d. American from 39s. to 49s., as to source.

SPEARMINT.—American oil on the spot, 63s. to 67s. 6d. per lb. Chinese, 77s. 6d. per kilo, c.i.f.

UNITED STATES REPORT

NEW YORK, MARCH 22: The price of COPAIBA BALSAM is now $2·30 to $2·65 per lb., down 20 cents from previous quotations, and PERU BALSAM is 10 cents lower at $2·40 to $2·60 per lb. A softer tone is developing in PEPPERMINT OIL with the natural available at $7 per lb. and redistilled at $7·50 (both down by 50 cents). Spot prices of TANGERINE are up 10 cents to 25 cents per lb., ranging from $2·10 to $2·25 according to quantity and quality.

TRADE MARKS

APPLICATIONS ADVERTISED BEFORE REGISTRATION

" Trade Marks Journal," March 9, No. 4567

For chemical products used in the manufacture of germicides and of cleaning preparations (1) *and for germicides, disinfectants and antiseptics all for industrial use in the manufacture of household cleaning preparations* (5)

PROTEXIN, 878,508-09, by Proctor & Gamble, Ltd., Gosforth, Newcastle upon Tyne.

For inactivated carbon (1)

CANE-CAL, 885,373, by Pittsburg Activated Carbon Co., Pittsburgh, Pennsylvania, U.S.A.

For chemical substances for use in agriculture, horticulture, and forestry; manures (natural and artificial) (1) *and for pharmaceutical, veterinary and sanitary preparations and substances; and disinfectants, preparations for killing weeds and destroying vermin, insecticides, larvæcides and fungicides* (5)

Device with word MI-DOX, 883,509-10, by Mi-dox, Ltd., London, N.W.10.

For non-medicated toilet preparations; cosmetic preparations; preparations for cleaning the teeth; and preparations for the hair (3)

AVON, B837,052, by Avon Cosmetics, Ltd., Northampton.

For all goods (3)

CHARMELIGHT, B875,843, by Marklene Products, Ltd., Brinksway, Stockport, Ches.

For preparations for cleaning the hands (3)

PALMIT, B879,596, by Alexander Duckham & Co., Ltd., London, W.6.

For non-medicated toilet preparations, cosmetic preparations, perfumes, soaps, essential oils, dentifrices (3)

BINAMEL, BINESCA, 883,009-10, by CIBA, Ltd., Basle, Switzerland.

For perfumes, non-medicated toilet preparations, cosmetic preparations, toilet articles, preparations for the hair, soaps and essential oils (3)

FADO, 886,168, by Jack Frale Bermond, London, W.1.

For disinfectants (5)

LEMON LADY, 871,482, LAVENDER LADY, 872,198, by David Thom & Co., Ltd., Pendleton, Manchester, 6, Lancs.

For pharmaceutical preparations for administration in the form of drops, tablets, suppositories, capsules and ampoules (5)

EUREKENE, 872,432, by Laboratoires J. Berthier, Grenoble, France.

For pharmaceutical preparations and substances (5)

IOSAL, 879,952, by Sanitas Co., Ltd., London, S.W.9. DIVABIL, 886,549, by Diva Laboratorien, A.G., Zurich 37, Switzerland.

For pharmaceutical preparations and substances for veterinary use (5)

RUMANADD, B881,210, by Stevenson, Turner and Boyce, Ltd., Reading, Berks.

For pharmaceutical preparations containing iron, for veterinary use (5)

FAMIRON, 882,392, by West-Silten Pharmaceuticals, Ltd., Hove, Sussex.

For antibiotics and antibiotic preparations (5)

BIOTRIN, 883,233, by Carlton Laboratories (Southern), Ltd., Brighton, Sussex.

For pharmaceutical preparations and substances, all for external use in the treatment of the skin (5)

DOMOL, 884,003, by Dome Chemicals, Inc., Elkhart, Indiana, U.S.A.

For anæsthetics and analgesic preparations all containing antibiotics (5)

GRANEOCAINE, 880,998, by E. R. Squibb & Sons, Twickenham, Middlesex.

For sun glasses (9)

RIVIERA, B884,259, by Riviera Cosmetics, Ltd., Bradford, Yorks. MODESTY BLAISE, 886,002, by Modesty Blaise, Ltd., London, W.1.

For electrically operated hair-drying appliances (not being machines) (11)

MISTRAL, 877,669, by Tricity Cookers, Ltd., London, W.C.2.

For paper napkins, paper serviettes, paper doilies and paper towels, toilet paper, facial paper tissues and paper handkerchiefs, none being medicated (16)

CRESTA, B880,962, by Bowater-Scott Corporation, Ltd., London, S.W.1.

PATENTS

COMPLETE SPECIFICATIONS ACCEPTED

From the " Official Journal (Patents)," March 2

Sedimentation apparatus. Davco (Proprictary), Ltd. 1,025,988.

Non-caking fertiliser granules. Verenigde Kunstmestfabricken Mckog-Albatros, N.V. 1,026,024.

Stabilised chloro cyclopentadiene derivative and pesticidal composition containing the same. Hooker Chemical Corporation. 1,026,031.

Herbicides and herbicidal compositions. Allied Chemical Corporation. 1,026,036.

Determination of dissolved substances in water. Central Electricity Board, E. C. Potter and G. E. Everitt. 1,026,071-2.

Fertiliser compositions containing ammonium nitrate. Imperial Chemical Industries, Ltd. 1,026,084.

Photographic film unit. International Polaroid Corporation. 1,026,096.

Cannula devices. Viggo, A.B. 1,026,119.

Allantoinpantothenate compounds. I. I. Lubowe. 1,026,154.

Aromatic fluorine compounds. R. N. Haszeldine. 1,026,290.

British patent specifications relating to the above will be obtainable (price 4s. 6d. each) from the Patent Office, 23 Southampton Buildings, Chancery Lane, London, W.C.2, from April 14.

CONTEMPORARY THEMES

Subjects of contributions in current medical and technical periodicals.

VENOM of the *Megalopyge urens* (Berg) caterpillar. *Nature*, March 12, p. 1139.

IMMUNO-ADSORBENTS of high capacity. *Nature*, March 12, p. 1142.

ECHOTHIOPHATE IODIDE. Lenticular opacities and. *J. Amer. med. Ass.*, February 21, p. 664.

CYCLOGUANIL PAMOATE in the treatment and suppression of malaria in the Gambia, West Africa. *Brit. med. J.*, March 19, p. 695.

BUCCAL OXYTOCIN. Use of in induction of labour in Chinese patients. *Brit. med. J.*, March 19, p. 710.

HEPARIN THERAPY in thromboembolic disease. *Lancet*, March 19, p. 621.

ENDOGENOUS HORMONE LEVELS in urine. Use of, to predict the response to clomiphene therapy. *Lancet*, March 19, p. 626.

BETA-SYMPATHETIC BLOCKADE in hyperthyroidism. *Lancet*, March 19, p. 628.

IMMUNOLOGICAL TREATMENT OF CANCER. Dangers and limitations of the. *Lancet*, March 19, p. 654.

A PROFESSIONAL PRODUCTS DEPARTMENT. The concept of. *Canad. pharm. J.*, February, p. V.

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Monday, March 28

BRISTOL BRANCH, PHARMACEUTICAL SOCIETY, Bakers Hall, Quakers Friars, Bristol, 1, at 2.15 p.m. Official opening of the " Medicines-with-care " exhibition.

CHEMICAL SOCIETY. Anniversary meetings, Oxford. Until March 31.

COLLOID AND SURFACE CHEMISTRY GROUP, SOCIETY OF CHEMICAL INDUSTRY, School of Pharmacy, University of London, Bnunswick Square, London, W.C.1, at 9.30 a.m. Symposium on " Chemistry and Rheology of Water-soluble Gums and Colloids " (in association with the British Society of Rheology).

ENFIELD BRANCH, NATIONAL PHARMACEUTICAL UNION, Enfield Arms hotel, Enfield, at 7.45 p.m. Mr. A. Aldington (a member of the N.P.U. Executive) on " This Exciting Year."

GLASS MANUFACTURERS' FEDERATION, Imperial College of Science and Technology, London, S.W.7, at 10.15 a.m. Seminar on " Handling of Glass Containers " (in association with the Food Manufacturers' Federation, Food Machinery Association and the British Closure Manufacturers' Association).

PHYSICS EXHIBITION, Alexandra Palace, London, N.22. Until March 31.

Tuesday, March 29

NORTH STAFFS BRANCH, PHARMACEUTICAL SOCIETY, North Staffs Medical Institute, Hartshill, at 7.45 p.m. Mr. G. R. S. Mee on " Call of the Alphorn " (film show).

READING BRANCH, PHARMACEUTICAL SOCIETY, Oak lounge, Ship hotel, Duke Street, Reading, at 8 p.m. Speaker: Mr. D. E. Sparshott (member of Council).

RHYL BRANCH, PHARMACEUTICAL SOCIETY, Westminster hotel, Rhyl, at 8 p.m. General meeting followed by discussion of resolutions being submitted at the Branch Representatives' meeting.

SOUTH SHIELDS BRANCH, NATIONAL PHARMACEUTICAL UNION, Sea hotel, South Shields, at 7.45 p.m. General discussion night.

TEES-SIDE BRANCH, PHARMACEUTICAL SOCIETY, Vane Arms hotel, High Street, Stockton-on-Tees, at 7.45 p.m. Film evening.

WEST SUSSEX PHARMACEUTICAL COMMITTEE, Beach hotel, Littlehampton, at 8 p.m. Annual contractors' meeting. M. Charles Ahr (vice-president, Pharmaceutical Syndicate of Reims, and vice-president, Pharmaceutical Circle of the Marne) on " Pharmacy in France."

WOKING BRANCH, PHARMACEUTICAL SOCIETY, Red House hotel, Woking, at 8 p.m. Mr. J. W. Hadgraft (chief pharmacist, Royal Free Hospital, London) on " Pharmaceutical Aspects of Dermatology."

Wednesday, March 30

GLASGOW AND WEST OF SCOTLAND BRANCH, PHARMACEUTICAL SOCIETY, Masonic hall, Cadzow Street, Hamilton, at 7.45 p.m. Mr. F. Hepburn (vice-chairman, Scottish Executive and immediate past chairman, Pharmaceutical General Council (Scotland)) on " Some of the Problems Facing Pharmacy."

NEWCASTLE AND NORTHUMBERLAND BRANCH, PHARMACEUTICAL SOCIETY, Mayfair ballroom, Newcastle upon Tyne, at 7.30 p.m. Dinner and dance.

SOUTH SHIELDS PHARMACISTS' ASSOCIATION, Sun lounge, Sea hotel, South Shields, at 8 p.m. Photographic slides competition.

Thursday, March 31

DEPARTMENT OF PHARMACY, LIVERPOOL COLLEGE OF TECHNOLOGY, Byrom Street, Liverpool, 3, at 8 p.m. Mr. R. Clitherow on " Shop Fitting."

HASTINGS BRANCH, NATIONAL PHARMACEUTICAL UNION, Warrior hotel, Warrior Square, St. Leonards-on-Sea, at 8 p.m. Mr. H. G. Moss (chairman, Central N.H.S. (Chemist Contractors) Committee and a member, N.P.U. marketing policy committee) on " Pharmacy Modernisation."

LEEDS BRANCH, NATIONAL PHARMACEUTICAL UNION, Hotel St. George, Harrogate, at 8 p.m. Mr. O. H. Waller (Editor, THE CHEMIST AND DRUGGIST) on " Ethics and Pay."

SOCIETY OF COSMETIC CHEMISTS, Royal Society of Arts, John Adam Street, London, W.C.2, at 7.30 p.m. Mr. D. J. Alexander (Unilever Research Laboratory, Isleworth) on " Some Aspects of Laboratory Planning."

Friday, April 1

FIFE BRANCH, PHARMACEUTICAL SOCIETY, Station hotel, Kirkcaldy, at 8 p.m. Dinner and dance.

WEST DORSET BRANCH, NATIONAL PHARMACEUTICAL UNION, Antelope hotel, South Street, Dorchester, at 7.45 p.m. Mr. W. Talvan Rees (chairman, N.P.U. Executive Committee and a member, Central N.H.S. (Chemist Contractors) Committee) on " Current N.H.S. Affairs."

Exhibitions and Fairs

CHINESE MEDICINE. An exhibition illustrating the traditional system of medicine of the Chinese people is being opened at the Wellcome Historical Medical Museum, Wellcome Building, Euston Road, London, N.W.1, on March 29. It will eventually form part of a new gallery devoted to medicine in non-Western culture in the museum. The exhibition will be open to the public without charge from 2 p.m. on March 29 and thereafter from 10 a.m. to 5 p.m. each Monday to Friday.

What doctors are reading about developments in drugs and treatments

PROPRANOLOL should be of value in the treatment of certain patients with hyperthyroidism, according to a report by workers at Manchester Royal Infirmary after tests on twenty patients. The investigation was carried out because the similarity between the circulatory changes of hyperthyroidism and those of increased sympathetic activity in healthy persons suggested a possible rôle of the sympathetic system in the disorder. Propranolol, a β-adrenergic blocking agent, counteracts the direct cardiac and peripheral vasodilator effects of sympathetic activity. No patients in the series had received antithyroid treatment. Heart-rate and cardiac output were measured before and after intravenous propranolol and at rest and during exercise. There was a consistent reduction in heart-rate at rest and during exercise and in most cases cardiac output was also reduced. However, heart-rate did not fall to a normal level and it is therefore concluded that the circulatory changes in hyperthyroidism are in part mediated through the sympathetic system via β-receptors but that thyroxin also has an independent direct action on the myocardium. Propranolol reduces the load on the heart and the paper's authors suggest that if that action is required in certain thyrotoxic patients then the drug is clearly indicated. They have found it clinically useful in hyperthyroid patients with troublesome palpitation, those with atrial fibrillation in whom the ventricular rate is difficult to control, and as a means of alleviating symptoms until therapy with iodine-131 becomes effective. (*Lancet*, March 19, p. 628.)

CONTINUING correspondence on the difficulty of preparing sterilised molar (8·4 per cent.) solutions of sodium bicarbonate, Mr. G. Smith (Pharmaceutical Society's Department of Pharmaceutical Sciences) writes that tests have shown that the deposit that forms is derived mainly from impurities present in the sodium bicarbonate. A modified method of preparation is to sterilise the solution normally, carbon dioxide being passed into the solution for one minute before closing the container. The fine deposit that forms is removed by filtration through a bacteria-proof filter using positive pressure. The solution is then re-autoclaved. The method, although slow and difficult to carry out in hospital practice, is put forward by Mr. Smith as useful for those who wish to avoid adding sodium edetate. (*Lancet*, March 19, p. 658.)

INTENSIVE heparin therapy has been used by workers in Northern Ireland in the treatment of venous thrombosis and pulmonary embolism. Eighty-two episodes in sixty-seven patients were treated, all patients recovering except one with evidence of ischæmic heart disease and in whom bronchopneumonia developed. It was found that there was an increased risk of local or diffuse bleeding complications in women which was corrected by reduction of the dosage by one-third (15,000 units each dose for men, 10,000 units for women). Patients were ambulant before heparin therapy was discontinued. (*Lancet*, March 19, p. 621.)

CHEMOPROPHYLAXIS of malaria following administration of a single dose of cycloguanil pamoate was of substantially greater duration than would have been expected to follow a single dose of any known antimalarial, says a report from the Medical Research Council laboratories, Gambia. The authors have carried out a field trial of the drug in 245 subjects under hyperendemic conditions in Gambia. Asexual parasitæmia existed in 65 per cent. of the treated group before dosage, but after seven days, all were trophozoite-free though gametocytes persisted. 63 per cent. of control subjects had parasites, and after seven days 55 per cent. were still infected. Systemic toxic reactions were not observed in treated patients and reactions at the injection site were reduced when the site was one less closely associated with adipose tissue. The duration of prophylaxis was shorter than has been obtained in American volunteers and the authors suggest that may be due to increased rates of drug absorption and excretion resulting from the extreme muscular activity of the Gambian subjects (*B.M.J.*, March 19, p. 695.)

NEW COMPANIES

P.C.=Private Company. R.O.=Registered Office.

DEVONSHIRE HOUSE CHEMICALS, LTD. (P.C.). — Capital £100. To provide managerial, technical and administrative services, etc. Subscribers: S. G. O'Leary and V. Simpson. R.O.: Devonshire House, Mayfair Place, London, W.1.

EXFLO SOLVENTS, LTD. (P.C.).—Capital £100. Subscribers: L. A. Marks and D. C. Wynn. 71 New Oxford Street, London, W.C.1.

GAYNER PERFUMERIES, LTD. (P.C.). — Capital £100. To carry on the business of manufacturers of and dealers in perfumes, cosmetics, etc. Directors: George Myers and William Gayner. R.O.: 70 Finsbury Pavement, London, E.C.2.

OVERSEAS COSMETICS, LTD. (P.C.). — Capital £100. Subscribers: Jean Herbert and Thomas A. Herbert, 156 Strand, London, W.C.2.

B. G. ROBERTSON LABORATORIES, LTD. (P.C.).—Capital £100. To carry on the business of manufacturing chemists, dealers in cosmetics and toilet requisites, etc. Subscribers: Shirley Hart and Averill Hart. R.O.: Nursery Lane, Forest Gate, London, E.7.

YELLUM PRODUCTS, LTD. (P.C.).—Capital £100. To carry on the business of dispensing chemists and druggists, etc. Subscribers: Muriel Goldstein and Brian Goldstein. 25 The Glade, Ilford, Essex.

COMMERCIAL TELEVISION

The information given in the table is of number of appearances and total screen time in seconds. Thus 7/105 means that the advertiser's announcement will, during the week covered, be screened seven times and for a total of 105 seconds.

Period April 3-9 PRODUCT	London	Midland	North	Scotland	Wales & West	South	North-east	Anglia	Ulster	Westward	Border	Grampian	Eireann	Channel Is.
Anadin	2/60	4/74	2/60	1/40	1/40	3/90	2/60	3/90	3/90	1/30	3/90	3/90	—	—
Anne French cleansing milk	1/30	1/30	1/30	—	2/60	—	—	—	—	—	—	1/30	—	—
Askit powders	—	—	—	7/49	—	—	—	—	—	—	3/21	3/21	—	—
Aspro	2/90	2/90	2/90	2/90	2/90	2/90	2/90	2/90	—	2/90	2/90	—	—	—
Dentu-Creme	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	—	1/30
Dippity-Do	2/60	2/60	2/60	2/60	2/60	2/60	2/60	2/60	3/90	2/60	3/90	3/90	—	—
Euthymol tooth-paste ...	—	1/30	1/30	1/40	1/40	—	1/40	1/40	—	—	—	—	—	—
Immac	1/30	1/30	1/30	—	—	—	1/30	—	—	—	—	—	—	—
Loxene shampoo	2/60	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	1/30	2/60	—
Maybelline eye cosmetics ...	—	—	1/30	—	4/120	—	—	—	—	1/30	—	—	—	—
Melody	—	—	4/120	—	—	—	—	—	—	—	—	—	—	—
Right Guard	3/90	3/90	3/90	4/120	3/90	4/120	3/90	4/120	3/90	3/90	3/90	3/90	—	—
Sea Witch	3/125	1/45	3/125	2/90	—	2/90	—	1/45	—	—	1/45	1/45	—	1/45
Spanish olive oil	1/40	—	—	—	—	—	—	—	—	—	—	—	—	—
SR tooth-paste	2/60	3/90	2/60	1/30	1/30	2/60	1/30	4/120	1/30	1/30	1/30	3/90	—	2/60
Sunsilk hairspray	2/30	2/30	1/15	—	—	2/30	—	—	1/15	—	1/15	1/15	—	1/15
Valderma balm	2/14	2/14	2/14	2/37	1/7	2/14	2/14	1/7	1/7	1/7	—	1/7	2/14	—

imulative price changes

AMENDING C & D QUARTERLY PRICE LIST FOR MARCH 1966

	ebut (366 Dendron)								
	uble strength								
	small	72	0	18	0	10	6		
	med.	120	0	30	0	17	6		
	nds (1227 THP)								
	infectant trial	8	6	—			11	D	
	medium	15	6	—		1	8		
	giant	21	0	—		2	4		
	gall	13	0ea	—		16	6		
	let roll	33	0	—		1	2		
		(3 doz.)							
	san (5 Abietsan)								
	h salts in hand								
	inted containers								
	r. McBunny 403	33	8	8	5	4	11		
	le (117 BPL)								
	osol	17	8ea	4	5ea	30	11		
	patine (49 AF)†s4B								
	tment 50gm	55	0	13	9	7	4		
	positories								
	in (24 ALAD)								
	uum flasks								
	Continental 16oz	—		—		7	11		
	32oz	—		—		12	5		
	ri (1576 P de S)								
	de toilette								
	100cc	20	0ea	5	0ea	40	0		
	fume 3.5cc	10	0ea	2	6ea	20	0		
	9cc	20	0ea	5	0ea	40	0		
	12cc	26	0ea	6	6ea	52	0		
	14cc	31	6ea	7	10½ea	63	0		
	28cc	52	6ea	13	1½ea	105	0		
	rite (324 Crookes)								
	t.) 200gm	35	4ea	—		53	0		
	1 kilo	164	8ea	—		247	0		
	l (29 Alfonal) existing entry								
	al (29 Alfonal)								
	a B. corn oil								
	east spread 5oz	67	6	—		3	9		
		(2 doz)							
	t pack 8oz	30	0	—		1	8		
		(2 doz)							
	-O-5of safflower oil								
	10oz	54	0	—		4	6		
		(1½ doz)							
	1pt	66	0	—		8	0		
	1gall	90	0	—		45	0		
		(¼ doz)							
	izy biscuits plain								
	ginger 7oz	19	2	—		2	0		
	eese spread 3½oz	33	7	—		1	9		
		(2 doz)							
	rn oil 1pt	33	7	—		3	6		
	1qt	32	5	—		6	9		
		(½ doz)							
	1gall	65	0	—		27	0		
		(¼ doz)							
	with alphium 1pt	38	5	—		4	0		
	argarine ½lb	28	10	—		1	6		
		(2 doz)							
	ow-Queen non-fat milk								
	1lb	62	5	—		3	3		
		2 doz)							
	n-O-Life margarine								
	½lb	32	0	—		1	8		
		(2 doz)							
	nflower seed oil								
	½pt	33	7	—		2	4		
		(1½ doz)							
	1pt	38	5	—		4	0		
	1qt	37	3	—		7	9		
		(½ doz)							
	1gall	72	0	—		30	0		
		(¼ doz)							
	syl (1178 Stafford)								
	on 8oz	211	0	52	9	30	9		
	e Sole (525 Golden)								
	ne tan aerosol								
	6oz	86	0	21	6	12	6		
	on (44 Amovon)								
	n paste	13	8	3	5	2	0		
	ex (67 Ashe)								
	odorant aerosol	43	1	10	9½	5	11		

	Andrews (976 PS&T)								
	liver salt 4oz	18	9	4	5	2	5		
	8oz	32	3	7	8	4	2		
	10oz	40	7	9	8	5	3		
	diabetic 8oz	34	5	8	2	4	6		
D	**Anepidem** (802 M5)								
	Anne French (655 ICC)								
	cleansing milk	16	4	4	1	2	3		
		27	3	6	10	3	9	D	
		54	6	13	8	7	6		
	Anodesyn (147 Boots)								
	ointment 25gm	32	0	—		4	0		
	Anti-Bi-San (451 F&J)								
	adult's	49	3	12	4	6	6		
	child's	37	10	9	5½	5	0		
D	Anti-Kamnia (1178 Stafford) tablets								
	April Violets (1355 Yardley)								
I	perfumed Cologne 1885	81	0	20	3	11	10		
D	perfume 1991								
D	perfumed Cologne 1984								
	Aqua-Net (1524 Chembro)								
I	hair spray squeeze pack 2l	0		5	3	2	11		
I	shampoo sachet	5	0	1	3		9		
	bottle 2l	0		5	3	2	11		
	Aqua Roma (342 CWLD)								
	shower spray adaptor	—		—		63	0		
	Aramis (425 ELC)								
	after shave 4oz	—		—		27	6		
	6oz	—		—		37	6		
	8oz	—		—		47	6		
	after shave cream								
	1oz	—		—		29	6		
	emulsion 2oz	—		—		29	6		
	all weather hand cream								
	tube	—		—		27	6		
	Ambassador	—		—		45	0		
	astringent 6oz	—		—		27	6		
	Cologne 4oz	—		—		52	6		
	8oz	—		—		84	0		
	deodorant roll-on								
	2oz	—		—		14	9		
	spray 2oz	—		—		17	6		
	stick 2⅜oz	—		—		21	0		
	talc spray 6oz	—		—		30	0		
	eye pads	—		—		30	0		
	friction lotion 6oz	—		—		27	6		
	hair groom spray								
	6oz	—		—		21	0		
	hair stay 4oz	—		—		19	6		
	Mark Out 1½oz	—		—		27	6		
	pick-up mask 1oz	—		—		42	0		
	shampoo-on-a-rope	—		—		27	6		
	shaving foam 6oz	—		—		17	6		
	soap bath	—		—		17	6		
	(3)	—		—		50	6		
	special shave formula								
	6oz	—		—		29	6		
	Arrid (235 Carteret)								
	deodorant cream	22	8	5	8	3	1		
		30	1	7	6	4	1		
	5upreme aerosol	49	3	12	4	6	6		
	Atomol (34 A&H)								
	nasal spray	30	0	—		3	9		
	Ashes of Gardenia (150 Bourjois)								
	soap bath (3) 9253	29	0	7	3	4	0		
	Ashes of Lavender (150 Bourjois)								
	soap bath (3) 9252	29	0	7	3	4	0		
	Ashes of Roses (150 Bourjois)								
	soap bath (3) 9250	29	0	7	3	4	0		
	Ashes of Violets (150 Bourjois)								
	soap bath (3) 9251	29	0	7	3	4	0		
	Askit (69 Askit)								
	powders 6	12	6	3	1	1	9		
	trade box 70	11	8ea	2	11ea		3½		
	tablets 20	12	6	3	1	1	9		
		14	0	3	6		7		
		(3½ doz.)		(3½ doz.)					
D	powders 28								
	Aureocort (746 Lederle) T5								
	ointment 250gm	203	0ea	—		304	6	D	

	Aurofac (295 CM&R) T5VPO								
	food supplement (vet.)								
	2A 50lb	139	6ea	—		172	6		
	Bactergent (295 CM&R)								
	dairy detergent								
	14lb	35	7½ea	—		47	6		
	50lb	97	4ea	—		130	0		
	Bactylan (1087 Roussel)								
	tablets 250								
	Beauty on a Budget (1063 Rimmel)								
	cream perfume roll-on								
	25	9		6	4	3	9		
	eyebrow colour brush-on								
	18	10		4	7	2	9		
	eye liner brush	12	0	2	11	1	9		
	hair brightener	25	9	6	4	3	9		
	Hide and Heal								
	cake make-up	12	0	2	11	1	9		
	stick	12	0	2	11	1	9		
	lip brush sable	25	9	6	4	3	9		
	lipstick	12	0	2	11	1	9		
	Bellafoline (1098 Sandoz)								
D	ampoules 1 mil	6							
D	solution 10 mils								
	Bell & Howell (1027 Rank)								
	cine cameras Super-8								
	Optronic Eye 2E	—		—		1170	0		
	5	—		—		2500	0		
D	Beparon (938 PD) 20 mils								
	Betnesol (518 Glaxo)								
D	ointment 5gm								
	Betnesol-N (518 Glaxo)								
D	ointment 5gm & 15gm								
I	**Betox** (978 PYP)								
	extract 3oz	14	5	—		1	6		
	8oz	33	7	—		3	6		
	11b	57	7	—		6	0		
	Bikini (78 A5&Co.)								
	suntan cream	14	0	3	9	2	6		
	Bio (1400 PBI)								
	bone meal ctn	2	4ea	—		3	6		
	7lb	4	4ea	—		6	6		
	14lb	8	4ea	—		12	6		
I	humus handy	1	8ea	—		2	6		
	7lb	3	6ea	—		5	3		
	14lb	6	4ea	—		9	6		
	28lb	11	0ea	—		16	6		
	lawn tonic	1	0ea	—		1	6		
	leafshine 2oz	1	8ea	—		2	6		
	plant builder	1	0ea	—		1	6		
	Biogastrone (117 BPL)								
	tablets 25mgm 100	40	0ea	—		60	0		
	Blue Grass (60 Arden)								
	soap, bath (3)								
	748.75	—		—		25	6		
	hand (3) 749.75	—		—		17	3		
D	Bourjois (150 Bourjois) existing entry								
I	**Bourjois** (150 Bourjois)								
	bath cubes, Wild Rose,								
	Golden Fern	27	4	6	10		4		
		(1 gross)		(1 gross)					
	Cologne three star								
	9333	51	4	12	10	7	6		
	lemon hand cream								
	9130	9	9	2	5	1	6		
	3672	17	10	4	6	2	9		
	rouge 117	11	5	2	10	1	9		
	shaving stick 6207	8	0	2	0	1	2		
	soaps								
	eggs 9158	7	3	1	10	1	0		
	9258	36	0	9	0	5	0		
	toilet 9135	3	4		10		5		
	9236	4	8	1	2		7		
	9235	18	0	4	6	2	3		
	bath 9140	6	8	1	8		10		
	9154	10	0	2	6	1	3		
	ovals 9168	10	0	2	6	1	3		
	lemon 9257	11	0	2	9	1	6		
	mammoth 9104	19	6	4	11	2	9		
	talcum Boudoir, Wild								
	Rose, Golden Fern	19	6	4	11	2	9		
	Bronnley (194 Bronnley)								
	turtle oil bath cubes (6)								
	606	—		—		3	9		
	Camilatone (563 Hampshire)								
D	twin pack	—							

when prescriptions call for INSULINS, supply

WELLCOME brand

● SOLUBLE ● LENTE ● PROTAMINE ZINC ● GLOBIN

BURROUGHS WELLCOME & CO. *(The Wellcome Foundation Ltd.)* LONDON

Carella (103 BF)
6oz 28 0 — 2 11
10oz 43 2 — 4 6
D Casaque (Jean d'Albret (1145 Sirex)
I **Casaque** (Jean d'Albret (1145 Sirex)
bath oil 343 — — 25 0
344 — — 45 0
345 — — 75 0
Cologne 79 — — 22 0
80 — — 37 6
81 — — 57 6
82 — — 93 0
perfume 325 — — 19 0
348 — — 29 6
351 — — 55 0
352 — — 84 0
353 — — 140 0
354 — — 231 0
atomiser 335 — — 48 6
refill 336 — — 35 0
soap (3) 330 — — 22 6
talcum 390 — — 16 0

Cellucon (830 Medo)
tablets 100 54 0 — 6 9
250 9 6ea — 14 3
D Charlton's (249 CM) bait 502

Chum (967 Petfoods)
handy 6doz 68 2 — 1 2
large 4doz 82 9 — 2 1½

Chymacort (61 APC) T5
ointment 14·2gm 11 6ea — 17 3

Chypre (301 Coty)
eau de toilette 013 51 6 12 10½ 7 6
perfume 110-29 126 3 31 7 18 9

Clean-O-Matic (551 GI)
electric toothbrush
battery model 50 7ea 11 9ea 84 0
rechargeable model 86 0ea 20 0ea 139 6

Clinic (509 Gibbs)
medicated shampoo
bottle 18 11 4 9 2 6

Clinistix (843 ML)
strip test 50 40 0 — 5 0
D old pack

Cobalin (930 P&B)
insufflation outfit 11 4ea — 17 0

Collosol (324 Crookes)
calamine lotion 4oz 33 0 8 3 4 4½
D aurum 2oz

Contrexeville-Pavillon (653 I&R)
bottles 36 1 5 5 4 4

Coopaphene (295 CM&R)
liquid drench 1qt 21 6½ea — 28 9

Coopers (295 CM&R)
aerosols
fly killer super
large 76 6 — 8 6
ant killer 38 3 — 4 3
I Fresh-aire super 38 3 — 4 3
floral 32 9 — 3 9
bouquet 32 9 — 3 9
nocturne 53 3 — 5 11
mothproofer 38 3 — 4 3
border liquid dip†
½gall 28 0ea — 35 0
2½gal 120 0ea — 150 0
5gall 220 0ea — 275 0
dairy ointment
2½lb 13 4ea 3 3ea 23 3
10lb 46 10½ea 11 5ea 73 11
poultry aerosol 11 3ea — 15 0
P.T.Z. drench gun 160 0ea — 200 0
warble fly powder
1lb 8 4½ea — 11 3

Coronet (298 Coronet)
camera Coromatic — — 55 0

Coronette (563 Hampshire)
hair lacquer refill 13 3 3 3¾ 1 9
D existing refill
D hair styling spray refill

Corsica (960 ADP)
cleansing milk
175cc 8 8ea 2 1ea 15 6
creme ajaccio 20cc 15 3ea 3 9ea 26 9
36cc 20 1ea 4 11ea 35 6
creme calvi 20cc 16 0ea 3 11ea 28 0
36cc 22 6ea 5 5ea 39 6
tonic 100cc 6 3ea 1 6ea 11 0

Cortico-Gel (324 Crookes)
D 80 iu/mil 5mils

Coty (301 Coty)
bath cubes 073 41 3 10 4 6 0
deodorant roll-on "Correct"
320 51 6 12 10½ 7 6
spray "Correct"
321 51 6 12 10½ 7 6
lipstick "24" refill
202 39 6 9 10½ 5 9
lipstick "Dew Fresh"
203 39 6 9 10½ 5 9

Crookes (324 Crookes)
halibut oil (vet.)
½gall 52 2ea — 78 3
1gall 100 0ea — 150 0
hand cream 28gm 22 6 5 8 2 11½
114gm 66 0 16 6 8 8½
lotion 57cc 22 6 5 8 2 11½
114cc 31 6 7 11 4 2

injection pituitary (post lobe)
B vet. C. †s4B
15mils 34 0 — 4 3
30mils 50 0 — 6 3
injection stilboestrol dipropionate
B vet. C. †s4B
15mils 34 0 — 4 3
30mils 54 0 — 6 9
iodine oil (and with methyl sal)
80oz 53 9ea 13 5½ea 85 1½
vitamin A inj. (vet.)
30mils 12 10ea — 19 3
vitamin B12 inj. (vet.)
1000mcgm/mil
15mils 24 0ea — 36 0
250mcgm/mil
15mils 96 0 — 12 0
multivitamin inj. (vet.)
100mils 31 8ea — 47 6
D halibut oil (vet.) 1 pint
D hand cream old sizes
D hand lotion old sizes
D vitamin A capsules 25

Croskell's (306 GC)
yellow mixture 6oz 17 3 4 4 2 6
16oz 34 0 8 6 5 0

Cuticura (993 PD&C)
(distributors 885 N&P)
soap 4½oz 2060 14 8 3 8 1 11

Cyclospasmol M (221 Camden)
D tablets 100mgm

Damaskin (657 IL)
leg make-up tube 21 2 5 3½ 3 1
D Daptamycin (894 Nicholas)

Decaserpyl (1087 Roussel)
D tablets 5mgm 20
D 10mgm 20

Decaspray (837 M5D)
D aerosol 30gm

Dekrasil (324 Crookes)
capsules 30 72 0 — 8 0

Delrosa (976 P5&T)
rose-hip syrup
12oz 42 0 — 4 8

Delta-Cortelan (518 Glaxo)
D tablets 1mgm 500

Dentesive (843 ML) 18 0 — 2 3

Dento (219 Calvert)
large 21 4 5 4 2 10

Dentu-Creme (1178 Stafford)
large 22 4 5 7 3 3

Digilanid (1098 Sandoz)
D ampoules 2 mils 6 & 30

Dimol (376 Dimol)
(distributors 49 AF)
I syrup 4oz 29 6 7 4½ 4 2

Dimotapp (1071 Robins)
I tablets L.A. †
D Dinky (810 Maw) see under Maws

Diocalm (104 BP)†
bottle 42 10 9 11 5 6

Dippity-do (1242 Toni)
hair setting gel regular
or extra holding 41 8 9 10¾ 5 11

Distivit (378 Dista)
D B12 ampoules

Doidy (122 Bickiepegs)
I cups 29 6 2 10 3 11

Dor (563 Hampshire)
D deodorant aerosol

Dorothy Gray (385 DG)
portrait make-up 85 0 23 0 12 6

Easettes (442 Excello)
analgesic 13 8 3 5 2 0

Easy (509 Gibbs)
shaving stick refill 10 7 2 8 1 3
D Ecusson (Jean d'Albret (1145 Sirex) existing entry

Ecusson (Jean d'Albret (1145 Sirex)
bath oil 443 — — 25 0
444 — — 45 0
445 — — 75 0
Cologne 59 — — 19 6
60 — — 36 0
61 — — 55 0
62 — — 93 0
94 — — 28 0
95 — — 47 6
eau de toilet 29 — — 36 0
30 — — 54 0
31 — — 85 0
atomiser 427 — — 110 0
refill 428 — — 52 6
lavande 74 — — 28 0
75 — — 47 6
perfume 440 — — 14 0
425 — — 19 0
452 — — 28 6
453 — — 39 6
411 — — 52 6
412 — — 80 0
413 — — 130 0
414 — — 220 0
atomiser 435 — — 48 6
refill 436 — — 35 0
soap (3) 430 — — 22 6
talcum 490 — — 16 0

D **Efcortelan** (518 Glaxo)
cream 1% 5gm
D with neomycin 5gm
D eye ointment 3gm
D with neomycin 3½gm
D lotion with neomycin 1% 20mils
D ointment 1% 5gm
D with neomycin 1% 5gm

Elizabeth Arden (60 Arden)
3 steps to beauty
333.66 — —
invisible veil pressed powder
gilt compact
559.00 — —
refill 560.00 — —
lipstick interchange
basket weave
659.E0 — —
men's hair cream
933.00 — —
soap hand 921.00 — —
bath 922.00 — —
2 bath 2 hand
906.00 — —
travel soap
921.23 — —
I milky liquid cleanser
202.80 — —
spot pruf cream
119.01 — —

Emeraude (301 Coty)
eau de toilette 013 51 6 12 10½
015 68 9 16 9
016 103 3 25 2
perfume 110–40 126 3 31 7
121–40 218 9 54 8
141–40 370 3 92 7
151–40 606 0 151 6

Endocil (917 Organon)
treatment cream
tube 30gm 48 0 12 0
jar 102 9 25 9
12 10ea 3 2½ea

Enzyvite (83 Bancroft)
tablets 50 30 10 7 8
100 51 5 12 10

Ephedrine and Nembutal (2 Abbott)†s1s4A
capsules 100 8 3ea —
500 33 4ea —

Evian-Cachet (653 I&R)
I half bottles 43 2 6 6
(1⅜doz.) (1⅜doz.)
bottles 36 1 5 5

Fercuman (930 P&B)
tablets 1000 46 0 —

Ferrosul (324 Crookes)†s4B
capsules (vet.)
dp250 48 8ea —

Firmo-Lift (60 Arden)
treatment oil
210.59 — —

Form Cut (1156 F5)
adhesive fingertip bandage FC7
10 0 —

Formula 16 (1281 Vincent)
I (distributors 1054 R&A)
D Fradoline (107 BH&L) all sizes

I **Framomycin** (324 Crookes) T5VPO
injection 100mils 60 0ea —
sachets 250mgm
100 70 0ea —
soluble 300gm 150 0ea —
tablets 100mgm 50 15 4ea —
500mgm 50 60 0ea —
feed additive 15lb 477 0ea —
D tablets 200mgm 12
D 500mgm 6

Framyspray (1530 Fisons) T5
aerosol 110gm 29 6ea —

Freesia (1355 Yardley)
I perfumed Cologne
1885 81 0 20 3
D hair oil 1834
D perfume 1891
D perfumed Cologne
1884 & 1828

Frooty (127 Bioglan)
tablets 100 24 0 —
1000 192 0 —

Gabail (49 AF)†s4B
elixir bromo-val
40oz 196 0 49 0

Germolene (104 BP)
tin 19 6 4 6

Gibbs (509 Gibbs)
fluoride tooth-paste economy
35 11 9 0

Glucophage (1077 Rona)†s4B
tablets 500mgm 50 14 0ea —
500 125 0ea —
1000 230 0ea —

Gondafon (973 Pharmethicals)
tablets 20 4 6ea —
5×20 20 4 —
25×20 95 0 —

Goya (532 Goya)
bubble bath large 41 3 10 0¾

edar Wood
hair groom 58 5 14 2¾ 8 6
talcum 48 2 11 9 7 0
am hand cream 44 8 10 10¾ 6 6
otight (1349 LW)
oothers
flat shield, filled 5 8 — —
ats
banded 3 9 — 6
international, small,
standard or large flow 4 0 — 6
valves 2 6 — 4
rdsman (1136 Silber)
ine projectors
Standard 8 — — 639 6
Super 8 — — 659 6
ex (560 Halex)
airbrushes gents
3-piece set D453 47 6 11 11 6 11
airbrushes ladies
Radial brush/comb
D314 40 6 10 2 5 11
adies brush sets
3-piece engine turned
E695 292 0 73 0 42 6
3-piece rosewood handle
E696 292 0 73 0 42 6
offret Caprice
E656 63 0 12 9 8 11
othbrush smoker's
A211 24 0 — 3 0
ath brush set D632
Radial hair brush D376
wo tone brush set E690
ina (1136 Silber)
amera
Paulette electric — — 239 6
case — — 39 6
lthcrafts (29 Alfonal)
Acerosa 100mgm
60 75 5 18 10 11 0
Anti-5at capsules
32 day 61 9 15 5 9 0
Bio-Flora 250 108 0 27 0 15 9
Enzygest 100 92 7 23 2 13 0
Garlic Plus 144 82 3 20 7 12 6
Golden Seal
3 week 68 0 17 0 9 11
7 week 171 5 42 10 25 0
Herb Formulas
'C' catarrh
2 week 51 5 12 10 7 6
7 week 140 7 35 2 20 6
'D' digestion
2 week 51 5 12 10 7 6
7 week 140 7 35 2 20 6
'R' rheumatism
2 week 51 5 12 10 7 6
7 week 140 7 35 2 20 6
'L' laxative 25 20 7 5 2 3 0
100 49 2 12 3 7 2
nner Fresh 3 week 27 5 6 10 4 0
6 week 51 5 12 10 7 6
Nerve Tone
2 week 48 0 12 0 7 0
7 week 140 7 35 2 20 6
Reducing Plan
2 week 53 9 13 5 7 10
50 day 153 2 38 3 22 4
Super bone meal
500 89 0 — 10 6
B. Compleat 100 70 0 — 8 9
Bio-Flavona 100 63 0 — 7 6
Garlic Pearls 144 82 3 20 7 12 0
Super lecithin 100 42 8 — 5 4
200 78 8 — 9 10
althy (1227 THP)
disinfectant lavender 18 6 — 2 0
pine 18 6 — 2 0
rmocea (812 M&PP)
Exajno
Hippacea
rmofemin (830 Medo)
tablets 500 and 1000
drocortisyl (1087 Roussel)
cream/ointment ½% 5gm & 50gm
1% 50gm & 250gm
2½% 5gm & 50gm
ntravenous 100mgm 20mils
spray 30mils
potensyl (49 AF)
tablets 250 172 0 43 0 23 8
trast (115 Bengue)
suspension vial
20mils 21 0ea — 28 0
.I. (649 ICI)
louse and insect
powder 28lb 47 0ea — 63 0
rapid udder/mastitis
test reagent kit 16 6ea — 22 0
refill 500mils 15 0ea — 20 0
½gall 42 0ea — 56 0
blitz M (1436 D&Co.)
flash unit — — 83 8
phot S (1436 D&Co.)
exposure meter — — 210 5
peracin (649 ICI) TS
capsules 16 6 6ea — 9 9
100 37 0ea — 55 6
1000 329 4ea — 494 0
tablets 16 6 6ea — 9 9
100 37 0ea — 55 6
1000 329 4ea — 494 0

In Love (1376 Hartnell)
(distributors 544 Grossmith)
perfume HL2 277 6 69 4½ 40 6
Instant Nail Dry (797 M5G)
small 52 0 13 0 7 6
Insulex (651 Insulex)
food jar 32oz 28 6ea 2 9ea 45 6
D Invirin (518 Glaxo)
Iodobesin (49 AF)†s4B
tablets 60 59 0 14 9 7 10
120 110 0 27 6 14 7
Ipesandrine (1098 Sandoz)
D syrup 3oz
Iso-Rapid (16 Agfa)
camera "C" outfit — — 159 6
Jackson's (662 EJ)
glucose Devon butterscotch
4oz 11 6 1 7 1 6
pastilles blackcurrant
4oz 11 6 1 7 1 6
creme de menthe
4oz 11 6 1 7 1 6
natural lemon
4oz 11 6 1 7 1 6
pastilles
antiseptic throat
2oz 15 0 3 7 2 3
bronchial catarrh
2oz 15 0 3 7 2 3
crystallised blackcurrant
2oz 14 6 2 1 2 0
catarrh 2oz 15 0 3 7 2 3
children's cough
2oz 15 0 3 7 2 3
eucalyptus and menthol
2oz 15 0 — 1 10
Gee's linctus †DDI
2oz 13 8 — 1 8
glycerine, lemon and honey
2oz 14 6 2 1 2 0
glycerine thymol
2oz 15 0 — 1 10
pholcodine †DDI
2oz 17 6 — 2 3
lozenges
bismuth 1oz 8 6 — —
bismuth dyspepsia
50 16 0 3 10 —
C.5. peppermint
2oz 14 6 2 1 2 0
linseed, liquorice & chlorodyne 51DDI
2oz 10 6 — 1 3
Mintettes 1oz 5 0 8 8
peppermint 1oz 5 7 9 10
sore throat 2oz 15 0 3 7 2 3
lime flavoured sulphur
2oz 10 0 2 4 1 6
D pastilles Friar's balsam
Jaap's (660 Jaap)
health salts 16 6 4 1½ 2 2
24 0 6 0 3 2
Johnsons (672 Johnson)
crepe bandage B.P.C.
2in 20 6 — 2 2
2½in 26 2 — 2 9
3in 30 0 — 3 3
3½in 34 6 — 3 9
4in 39 1 — 4 4
6in 58 4 — 6 3
D cotton wool balls carton
D belladonna plaster on red felt
June Geranium (60 Arden)
soap, hand (3)
749.81 — — 17 3
bath (3) 748.81 — — 25 6
Karvol (324 Crookes)
inhalant capsules10 20 0 5 0 2 11
Katkins (967 Petfoods)
6doz 31 5 — —
Kit-E-Kat (967 Petfoods)
6doz 41 1 — —
Klik (563 Hampshire)
D fly killer 18oz
Lacto-Calamine (324 Crookes)
cream 28gm 31 6 7 11 4 2
lotion 28cc 18 0 4 6 2 4½
105cc 28 0 7 0 4 1
talcum powder
95gm 31 6 7 11 4 2
D lotion 4oz
L'Aimant (301 Coty)
bath cubes 2073 41 3 10 4 6 0
eau de toilette 013 51 6 12 10½ 7 6
perfume 110–20 126 3 31 7 18 9
121–20 218 9 54 8 32 6
141–20 370 3 92 7 55 0
151–20 606 0 151 6 90 0
171–20 967 6 241 10½ 147 0
Lasix (614 Hoechst)†s4B
tablets 40mgm
1000 586 0ea — 879 0
Lassie (967 Petfoods)
handy 6doz 55 7 — —
large 4doz 66 2 — —
Lavasan (1269 VC)
toilet deodoriser 10 0 — 1 3
Lentheric (753 Lentheric)
lipstick Soft Focus — — 6 3
presentation case — — 9 9

Le Rouge Baiser (994 P&M)
eyeshadow 41 0 10 3 6 0
Liberty (538 Greebex)
sunglasses gents 1 36 0 — 4 6
3 76 0 — 9 6
7 24 0 — 3 0
8 16 0 — 2 0
ladies 6 60 0 — 7 6
Liqufruta (1102 Sanitas)
4oz 24 8 6 2 3 3
12oz 47 4 11 10 6 3
with honey 4oz 26 6 6 7 3 6
medica 4oz 26 6 6 7 3 6
12oz 52 5 13 1 6 11
L'Origan (301 Coty)
eau de toilette 013 51 6 12 10½ 7 6
perfume 110–70 126 3 31 7 18 9
121–70 218 9 54 8 32 6
141–70 370 3 92 7 55 0
151–70 606 0 151 6 90 0
Loxene (563 Hampshire)
D hair cream dispenser
D Magic Moments (1227 THP) existing entry
I **Magic Moments** (1227 THP)
hair spray aerosol 37 8 9 6 4 11
shampoo cream
sachet 10 0 (4 doz.) 2 6 4
liquid sachet 10 0 (4 doz.) 2 6 4
2oz 11 4 2 10 1 6
medicated sachet 10 0 (4 doz.) 2 6 4
2oz 11 4 2 10 1 6
Marcel Rochas (796 MR)
Femme
eau de Cologne
2206 17 2ea 4 3ea 30 0
2204 28 0ea 7 0ea 49 0
2203 42 0ea 11 0ea 74 0
atomiser 5240 36 4ea 9 1ea 63 6
parfum 180 28 0ea 7 0ea 49 0
156 36 6ea 9 2ea 64 0
154 53 9ea 13 5ea 94 0
153 78 3ea 19 7ea 137 0
152 123 6ea 30 10ea 216 0
151 188 6ea 47 2ea 330 0
150 228 6ea 57 2ea 400 0
atomiser 595 53 9ea 13 5ea 94 0
refill 596 26 10ea 6 9ea 47 0
atomiser 5253 93 6ea 23 4ea 163 6
refill 5243 61 6ea 15 4ea 107 6
parfum de toilette
2007 19 2ea 4 9ea 33 6
2006 34 3ea 8 6ea 60 0
2004 51 0ea 12 9ea 89 0
2003 88 0ea 22 0ea 154 0
atomiser 5047 30 4ea 7 7ea 53 0
5040 54 4ea 13 6ea 95 0
talcum powder
1115 12 3ea 3 1ea 21 6
La Rose parfum
480 28 0ea 7 0ea 49 0
456 36 6ea 9 2ea 64 0
454 53 9ea 13 5ea 94 0
453 78 3ea 19 7ea 137 0
Madame Rochas
eau de Cologne
9206 17 2ea 4 3ea 30 0
9204 28 0ea 7 0ea 49 0
9203 42 0ea 11 0ea 74 0
atomiser 5940 36 4ea 9 1ea 63 6
perfume
atomiser 995 53 9ea 13 5ea 94 0
refill 996 26 10ea 6 9ea 47 0
atomiser 5953 93 6ea 23 4ea 163 6
refill 5943 61 6ea 15 4ea 107 6
980 28 0ea 7 0ea 49 0
956 36 6ea 9 2ea 64 0
954 53 9ea 13 5ea 94 0
953 78 3ea 19 7ea 137 0
952 123 6ea 30 10ea 216 0
951 188 6ea 47 2ea 330 0
950 228 6ea 57 2ea 400 0
talcum 9115 12 3ea 3 1ea 21 6
Moustache after-shave
416 14 6ea 3 8ea 25 6
414 19 6ea 4 10ea 34 0
413 30 4ea 7 7ea 53 0
travel pack 415 17 2ea 4 3ea 30 0
atomiser 5440 24 3ea 6 1ea 42 6
eau de Cologne
116 15 2ea 3 9ea 26 6
114 24 4ea 6 1ea 46 6
113 36 6ea 9 2ea 64 0
atomiser 5540 29 3ea 7 3ea 51 0
talcum powder
5115 9 1ea 2 4ea 16 0
Margo's (798 Margolis)
baby powder 14oz 16 6 4 1½ 2 6
D giant size
Marigold (35 AR)
I rubber gloves
new style suedette
450 37 8 3 7½ 5 0
Chic 462 30 0 2 11 3 11
Crepegrip 452 28 0 2 8 3 9
Featherweight454 24 6 2 4 3 3
General Service
suedette 459 40 6 3 11 5 5
Handyman suedette
458 30 2 11 3 11

Marina 466 22 6 2 2 2 11
5mooth 457 24 0 2 4 3 3
Marmola (451 F&J)
tablets 26 10 6 8½ 3 11
Maws (810 Maw)
baby feeders
dinky polythene
360.02 22 0 — 2 9
D 360.01
Mavala (664 J5&C)
lipstick 60 0 15 0 8 9
Maws (810 Maw)
baby powder standard
371.01 15 5 3 10 2 3
family 371.02 25 8 6 5 3 9
Milton/Maw unit
328.00 76 0 3 2 9 9
teething balm
345.00 15 5 3 10 2 3
inc and castor oil cream
337.10 10 0 — 1 3
337.11 18 0 — 2 3
proprietaries
I eucalyptus oil
417.10 14 3 — 1 10
golden eye ointment
429.00 7 6 1 10½ 1 3
D Max (855 Mondart) existing entry
I **Max** (1227 THP)
aerosols
air freshener 8oz 31 6 — 3 6
fly killer 8oz 33 9 — 3 9
Max Factor (813 MF)
manicure oil 26 0 6 2 3 9
Medi-Swabs (972 Pharmax)
10 x 100 65 0 — 8 8
Medocodene (830 Medo)†DDI
tablets 100 9 8ea — 14 6
Memoire Cherie (60 Arden)
dusting powder
puff-puff 755.84 — — 10 6
perfumaire de luxe
809.07 — — 32 6
soap bath (3) — — 31 6
hand (3) — — 19 6
Mennen (525 Golden)
Afta 56 8 14 2 8 3
body talc 105gm 34 0 8 6 5 0
250gm 58 8 14 8 8 6
brushless shave regular
32 6 8 1½ 4 9
menthol 32 6 8 1½ 4 9
deodorant aerosol
3oz 40 8 10 2 5 11
4oz 54 4 13 8 7 11
I spray 38 0 9 6 5 6
D stick 46 0 11 6 6 9
electric pre-shave 51 8 12 11 7 6
lather shave regular 32 6 8 1½ 4 9
menthol 32 6 8 1½ 4 9
shave talc 34 0 8 6 5 0
skin bracer 50cc 31 0 7 9 4 6
125cc 51 8 12 11 7 6
Sof' Stroke regular 46 0 11 6 6 9
menthol 46 0 11 6 6 9
Mentholatum (836 Mentholatum)
balm tin 8 6 2 1½ 1 2
jar 20 6 5 1½ 2 9
tube 20 6 5 1½ 2 9
Mesavac (969 Pfizer)
ampoules 10 0ea — 15 0
I **Messire** (1145 Sirex)
after shave lotion
225 — — 21 0
226 — — 21 0
Bio-Capil 232 — — 20 6
231 — — 35 0
Cologne 222 — — 29 6
223 — — 49 6
deodorant 233 — — 12 0
hair lacquer, royal jelly
237 — — 24 0
Lacto-Derme 227 — — 21 0
pre-shave 224 — — 21 0
shaving cream brushless
234 — — 11 6
lather 235 — — 11 6
soap (3) 230 — — 22 6
toilet water 221 — — 39 6
220 — — 69 0
Mevilin-L (518 Glaxo)
vaccine vial 14 3ea — 19 0
D Mezuran (649 ICI) tablets
Milk of Magnesia (976 P5&T)
liquid 4oz 17 8 4 2 2 4
tablets handy 15 11 3 9 2 1
standard 32 5 7 9 4 3
Mil-Par (976 P5&T)
4oz 18 5 4 5 2 5
8oz 32 5 7 9 4 3
16oz 50 3 12 0 6 7
Mini Bisks (1530 Fisons)
lemon puffs 44 6 — 4 9
D Misty (1092 Saga) existing entries
I **Misty** (1092 Saga)
creme rinse sachet 43 7 10 11 6
(1 gross) (1 gross)
cuticle remover 10 4 2 7 1 6
hair spray, Hard to Hold,
Soft Style aerosol
8oz 38 0 9 6 5 6
economy 16oz 53 4 13 4 7 11
sachet refill 50cc 10 2 2 7 1 6
Mani-Cure
nail polish remover 10 4 2 7 1 6
Quick Set spray
8oz 35 9 8 11 4 11
refill 8oz 20 7 5 2 2 10
shampoo's lanolin, lemon tonic
medicated sachet 29 1 7 3 4
(1 gross) (1 gross)
bottle 20 7 5 2 2 10
lacquer removing
sachet 43 7 10 11 6
Moditen (1176 Squibb)†s4B
elixir 60mils 7 9ea — 11 7½
1 litre 60 0ea — 90 0
tablets 1mgm 25 6 9ea — 10 1½
100 24 0ea — 36 0
500 105 0ea — 157 6
2.5mgm 100 30 0ea — 45 0
500 130 0ea — 195 0
5mgm 100 40 0ea — 60 0
500 170 0ea — 255 0
enanthate ampoules 1mil
5 15 0ea 3 9ea 26 3
vial 25mgm/mil
10mils 120 0ea 30 0ea 210 0
D Monogram (857 ME) existing entry
I **Monogram** (857 ME)
electric overblankets
Countess single — — 252 0
double — — 294 0
dual — — 336 0
Empress single — — 315 0
dual — — 399 0
Peeress single — — 210 0
double — — 252 0
dual — — 294 0
underblanket
60 × 32in GU24 — — 156 6
60 × 48in GU25 — — 196 6
Morny (862 Morny)
dusting powder 435 — — 8 6
perfume pursette
133 — — 10 0
Muguet des Bois (301 Coty)
eau de toilette 013 51 6 12 10½ 7 6
perfume 110–60 126 3 31 7 18 9
121–60 218 9 54 8 32 6
141–60 370 3 92 7 55 0
151–60 606 0 151 6 90 0
Mycolactine (49 AF)†s7
I tablets 250 110 0 27 6 15 2
D 100
My Love (60 Arden)
heart-shaped soap
bath 736.77 — — 8 6
hand (3) 735.77 — — 17 3
D Myodil (518 Glaxo) ampoules
Nappi-Rolls (810 Maw)
355.01 17 0 — 1 10
D old pack 355.00
Neo-Femergin (1098 Sandoz)
D ampoules 1mil 6 & 50
Neron (1274 VDL) MC
de-luxe tablestand — — 35 0
Theratherm infra red lamp — — 31 0
Ultra Vitalux irradiator — — 101 3
Nestle (451 F&J)
Colorhair 58 3 14 7 8 6
Neuroplex (1197 Sumner)†
I dp 2 litres 21 6ea — —
Nighthawk (538 Greebex)
I night driving glasses
1015 18 8ea — 28 0
1025 16 0ea — 24 0
D Nobactin (1277 VI)
Noxzema (1524 Chembro)
liquid skin cream
bottle 37 6 8 10 5 3
N.P.U. (810 Maw)
liquid antiseptic
2oz 12 7 3 2 1 10
8oz 26 10 6 9 3 11
Nueva Maja (317 C5)
spray mist aerosol
3oz 16 9ea 4 2ea 30 0
Octaflex (1305 WB)
aerosols 100mils
500mils
Oncovin (413 Lilly)
ampoules 1mgm 1 70 0ea — —
Optrex (690 Keldon)
ocular syringe 133 4 — 16 8
Optulle (690 Keldon)
D paraffin gauze dressing
D Orlane (1145 Sirex) existing entry
I **Orlane** (1145 Sirex)
active 636 — — 31 6
637 — — 34 0
anti-cerne 625 — — 15 6
anti-couprosine 747 — — 39 6
astrale solaire 697 — — 18 0
astringent 587 — — 18 0
588 — — 29 6
bio-catalys 852 — — 57 6
jar 850 — — 171 6
refill 851 — — 86 0
bio lacta 855 — — 48 0
853 — — 64 6
boreale 537 — — 1
camphor lotion 597 — — 2
cleansing milk 567 — — 1
568 — — 2
569 — — 4
deodorant 603 — — 1
embryo serum 647 — — 11
eyebrow pencil 595 — —
eye shadow 615 — — 1
pearl 614 — — 1
galbea 688 — — 3
gerbera 552 — — 2
refill 553 — — 1
hair lacquer 722 — — 2
handmilk 556 — — 1
hydratante 726 — — 2
727 — — 2
integrale 617 — — 3
lacta cream 926 — — 1
927 — — 2
929 — — 4
lauria 930 — — 1
lip pencil 596 — —
lipstick 36 — — 1
case 35 — — 1
case de luxe 34 — — 4
maquillage 509 — — 1
maquilleur a cils
620 — — 1
maquisol 695 — — 1
mascara 575 — — 1
refill 576 — — 1
masque de detente
627 — — 1
mirasol 694 — — 1
nail enamel 45 — — 1
pearl 46 — — 1
fixing base 47 — — 1
remover 49 — — 1
naturelle 736 — — 1
737 — — 2
ombreline 633 — — 1
orange cream 606 — — 1
607 — — 2
608 — — 3
pate pellicia 48 — — 1
patricia 902 — — 1
901 — — 2
poudre deesse 915 — — 2
poudre de beaute
555 — — 1
purifia 931 — — 1
reve bleu 911 — — 1
reve rose 910 — — 1
rouge cream 565 — — 1
royal jelly 716 — — 1
717 — — 1
718 — — 2
elixir 720 — — 3
eye cream 715 — — 2
hair lacquer 721 — — 1
soap 730 — — 1
royal laelia 920 — — 2
refill 921 — — 1
smart cream 561 — — 1
558 — — 1
559 — — 2
tan Orlane 696 — — 2
tonique 577 — — 1
578 — — 2
579 — — 3
vestale 906 — — 1
905 — — 2
maquilane 907 — — 2
Orwo-Color (1136 Silber)
negative films NC16
roll 127, 120 — —
miniature 20exp. 135 — —
Pal (967 Petfoods)
handy 6doz 65 8 —
large 4doz 81 1 —
Pandrin (346 Dales)†
tablets 24 0 6 0
Parabal (1320 WSP) †s1s4A
tablets 100 72 0 —
Paramez (649 ICI) †only
Paris (301 Coty)
eau de toilette 013 51 6 12 10½ 1
perfume 110–80 126 3 31 7 3
121–80 218 9 54 8 5
141–80 370 3 92 7 9
151–80 606 0 151 6
I **Parozone** (671 Jeyes)
20oz 10 9 —
32oz 13 10 —
D 10oz & 26oz
Paterson (637 Hunter)
Acutol developer
20oz — — 1
Pavacol (1305 WB)†DDI
100mils 28 0 7 0
500mils 11 2ea — 1
2000mils 43 4ea — 6
diabetic 100mils 28 0 7 0
500mils 11 2ea — 1
2000mils 43 4ea — 6
Perfex (1022 Racasan)
cleaning cloth (3) 24 6 —
Perox-Chlor (662 EJ)
hand cream 2⅜oz 60 0 14 3
D 4oz

Nana (544 Grossmith)
e powder 0312B 6 6 1 7½ 1 0
ndation cream
320 9 0 2 3 1 6
tick 323 9 0 2 3 1 6
fume carded
315A 10 0 2 6 1 7
315D 16 6 4 1½ 2 6
315E 24 3 6 1 3 6
artoned 314 44 0 11 0 6 3
ge compact 324 9 0 2 3 1 6
fume 315&316
(256 CPL)
um Dream flower
78gm 18 3½ 4 6½ 2 6
ylan (1320 W5P)
drops 15mils 72 0 18 0 10 6
rtisyl (1087 Roussel)
ction 25mgm/mil 1mil
(1352 Wyeth)
ules 100 8 0ea — 10 8
avol (324 Crookes) VPO
cine (vet.) 3 dose 42 0ea — —
on (1087 Roussel)
ti-pack
e (166 Brannan)
cal thermometer
min stubby 8a 42 0 — —
and (451 F&J)
and (1578 Vernon)
n (2 Abbott)†
mix 5lb 18 1ea 4 6½ea 27 1
10×5lb 165 0 41 3 247 6
um sachets
6×1oz 34 3 8 7 51 4
r (1269 VC)
urifier block 6 0 — 9
(690 Keldon)
lotion 3pz 24 0 6 0 3 6
ies (451 F&J)
ll 13 2 3 3½ 1 11
A.C. (1091 Rybar)
25gm 26 0 6 6 3 9½
yl (324 Crookes)
ts 25 34 0 — 4 3
erme (867 Du M)
34 6ea 10 0ea 63 0
(1052 Revlon)
perspirant
0724 97 6 24 4½ 14 6
er Nail 0150 72 6 18 1½ 10 9
Guard (514 Gillette)
dorant aerosol
4½oz 57 7½ 13 10 7 11
le (285 Colman)
(1091 Rybar)
etic linctus †DDI
4oz 44 0 11 0 6 5
ment (vet.)†
25gm 26 0 6 6 3 9½
500gm 18 6ea 4 8ea 32 5
relli (1169 G5&5)
relli (386 Douek)
(2 Abbott)
m ½oz
(1352 Wyeth)
ts 10mgm 100 15 6ea 3 10½ea 24 6
500 63 6ea 15 10½ea 100 7
15mgm 100 19 0ea 4 9ea 30 1
500 80 0ea 20 0ea 126 8
8 (179 8DH) †s4B
ts 28 6 8ea — 10 0
(518 Glaxo)†s4B
ts 25 5 0ea — 6 8
(127 5eton)
ributors 93 8J)
r'n cuff 1048 8 9ea — 13 3
n (1577 AT)
er gloves 44 0 4 4½ 5 9
509 Gibbs)
n-paste
economy 35 11 9 0 4 9
r (317 C5)
s cologne 1⅜oz 11 6ea 2 10½ea 21 0
3⅜oz 20 9ea 5 2ea 37 6
y (442 Excello)
ributors 261 Christy)
ning tablets 53 0 13 3 7 6
ueen (29 Alfonal) see Alfonal
ycin (1087 Roussel)
halets 12
76 P5&T)
bath 12oz 18 11 4 9 2 6
20oz 30 4 7 7 4 0
(1227 THP)
es large 27 0 — 1 0
(3 doz.)
economy 49 6 — 2 9
(2 doz.)
flats 23 9 — 10½
(3 doz.)
twin 31 6 — 2 4
(1½ doz.)
ol (802 MS) existing entry
col (802 M5)
ial 10mils 17 0ea 4 3ea —
(7 5pa) existing entry
(7 5pa)
brushes
gerigar 855 47 8 11 11 6 11
y Cat 856 47 8 11 11 6 11

Thistledown set
851 33 8 8 5 4 11
bath brushes
Dolphin 341 81 8 20 5 12 3
sponge brush 340 32 0 8 0 4 9
nylon filled 331 30 4 7 7 4 6
presentation set
351 61 4 15 4 8 11
352 61 4 15 4 8 11
sponge brush 332 24 0 6 0 3 6
Swan 342 100 3 25 1 14 9
clothes brushes
cat 714 34 3 8 7 4 11
Dandy Duck 71 196 3 49 1 29 6
dog 715 40 8 10 2 5 11
kangaroo 716 34 3 8 7 4 11
pocket 701 9 0 2 3 1 3
Tribesman 717 456 0 114 0 65 0
comb and brush
613 10 4 2 7 1 6
dental plate brush
281 16 0 — 2 0
gift sets ladies
Egyptian Gold 564 120 0 30 0 17 6
Elegant 510 128 0 25 5 18 3
Fantasie 566 120 0 30 0 17 6
Fiesta 562 72 0 18 0 10 6
New Look 563 104 0 26 0 15 0
gift sets gent's
travel 453 112 0 28 0 16 6
hair brushes ladies
featherweight hairstyling
556 20 0 5 0 2 11
radial 57 157 4 39 4 22 11
Satinglo bristle 56 240 0 60 0 35 0
nylon 506 103 4 25 10 15 0
Slimline 535 57 4 14 4 8 6
hair brushes gent's
Debonair bristle
45 240 0 60 0 35 0
nylon 455 103 4 25 10 15 0
military oval 452 57 4 14 4 8 6
nail brushes
cosmetic beauty care
306 13 6 3 5 2 0
Dolphin 310 36 4 9 1 5 3
family 305 18 10 4 9 2 9
Penguin 312 31 8 7 11 4 9
surgeons 328 33 4 8 4 4 11
Swan 311 36 4 9 1 5 3
universa 307 13 6 3 5 2 0
shaving brushes
bristle 771 42 3 10 7 6 3
772 58 0 14 6 8 6
badger/bristle 774 144 0 36 0 21 0
toilet brushes
Spik 736 85 4 3 0 10 11
toothbrushes
bristle number one
18 40 0 — 5 0
bristle filled 11, 21, 26 24 0 — 3 0
nylon filled 101, 126, 127, 201, 226, 227 13 4 — 1 9
after treatment
251 20 0 — 2 6
Spot (423 Enalite)
tar and oil remover 22 6 — 2 6
40 0 — 4 6
65 0 — 7 6
Spray 'N Stay (256 CPL)
hairspray aerosol
175gm 40 0 10 0 5 6
300gm 69 2 17 3½ 9 6
S.R. (509 Gibbs)
tooth-paste
economy 35 11 9 0 4 9
Stargloss (1466 Nichol)
hair lustre 6oz 60 0 15 0 8 9
Staytrim (538 Greebex)
hair cutter 46 0 11 6 5 4
Sulphamezathine (649 ICI)†s4B
veterinary
tablets 5gm 20 11 9ea — 17 6
D Sun-O-Life (29 Alfonal) see Alfonal
D Sunhawk (538 Greebex) existing entry
I **Sunhawk** (538 Greebex)
suglassses gents 303, 403, 404, 405 60 0 — 7 6
301, 401, 402 92 0 — 11 6
ladies 302, 410, 411, 412, 413
60 0 — 7 6
406, 407, 408, 409 92 0 — 11 6
clip-ons 204 60 0 — 7 6
203 92 0 — 11 6
Sunsilk (509 Gibbs)
D hair spray aerosol 8oz
D Supersoft (563 Hampshire) existing entry
I **Supersoft** (563 Hampshire)
bubble bath 2 6 7½ 4
hair spray perfumed 1, 2 and 3
33 6 8 4½ 4 6
economy size 1 & 2 41 0 10 1½ 5 6
super size 1 and 2 70 8½ 17 5½ 9 6
hand cream 11 2 2 9½ 1 6
plastic 13 0 3 3 1 9
shampoo lemon
sachet 2 6 7½ 4
bottle 14 4 3 7 1 11
liquid sachet 2 6 7½ 4
bottle 14 4 3 7 1 11
wave set 11 2 2 9½ 1 6
D Suregrip (774 LR)
I **Suregrip** (35 AR)
rubber gloves
lightweight 316 29 4 2 10 3 6
skin thin 286 35 9 3 5½ 4 9
super 310 37 8 3 7½ 5 0
unlined 294 32 0 3 1 4 3
I **Swedish** (1539 8V)
complexion soap
80gm 16 0 4 0 2 4
140gm 24 0 6 0 3 6
Tancolin (810 Maw)†DDI
children's linctus
2litre 30 0ea — —
Tar Dermament (938 PD)
D 50 mils
Tenuate (838 MN)†s48
tablets 30 62 0 — 7 9
100 15 0ea — 22 6
500 72 0ea — 108 0
Tenuate Dospan (838 MN)†s48
tablets 15 52 0 — 6 6
100 25 6ea — 38 3
Thawpit (1221 Thawpit)
naphthalene moth balls
13 6 — 1 6
I **Tone Yeast** (442 Excello)
17 4 4 4 2 6
Topnote (1157 5)
hair set sachet 6 10 1 8½ 1 0
Triominic (1303 Wander) †s7
tablets 12 28 0 — 3 6
D 25
Tubigrip (1127 5eton)
(distributors 93 8J)
tubular supporting bandage
2½in×½yd 2004 32 0 — 4 0
3in×½yd 2005 36 0 — 4 6
4in×½yd 2006 40 0 — 5 0
Ucal (1261 UCAL)
I bay rum and cantharides †
U.C.G. (324 Crookes)
pregnancy test kit (10 tests)
65 0ea — 97 6
Unity (166 Brannan)
clinical thermometer
figured single degree
45 0 — —
Valium (1074 Roche)†s4B
capsules 2mgm 100 16 8ea — 25 0
500 66 8ea — 100 0
5mgm 100 24 0ea — 36 0
500 98 8ea — 148 0
Valpeda (343 DH)
foot balm 25 2 — 3 0
Vanexane (1197 5umner)
head lotion 2oz 15 0 3 9 2 3
D Vapar (1269 VC) existing entry
I **Vapar** (1269 VC)
air freshener aerosol 22 0 — 2 11
moth repellent block 3 0 — 4
insectofly killer aerosol
22 0 — 2 11
Vaseline (256 CPL)
petroleum jelly white
1lb 63 10½ 15 11½ 8 6
Veet (343 DH)
odourless large 28 4 7 1 3 9
Velva (60 Arden)
smooth lotion
205.95 — — 35 0
Vetrivite (324 Crookes)
(vet.) 15mils 180 0 — 22 6
Vichy (653 I&R)
pastilles 5 9 1 5 1 3
Vichy-Celestins (653 I&R)
I splits 35 3 (2doz) 5 4 (2doz) 2 2
half bottles 50 8 (2doz) 7 7 (2doz) 3 3
bottles 36 1 5 5 4 4
Vichy-Grande-Grille (653 I&R)
I splits 35 3 (2doz) 5 4 (2doz) 2 2
half bottles 50 8 (2doz) 7 7 (2doz) 3 3
bottles 36 1 5 5 4 4
Vichy Hopital (653 I&R)
I splits 35 3 (2doz) 5 4 (2doz) 2 2
half bottles 50 8 (2doz) 7 7 (2doz) 3 3
bottles 36 1 5 5 4 4
Vick (1277 VI)
cough drops 3 3 10 6
Vittel Grande (653 I&R)
I half bottles 50 8 (2doz) 7 7 (2doz) 3 3
bottles 36 1 5 5 4 4
Vittel Hepar (653 I&R)
I half bottles 50 8 (2doz) 7 7 (2doz) 3 3
bottles 36 1 5 5 4 4
Wellcovax (208 BW)
vaccine 14 0ea — 21 0
Whiskas (967 Petfoods)
6doz 63 3 — 1 1
Windsor (1070 Windsor)
D perfume stick 1219

Woodwards (1346 Woodward)
gripe water 5oz 24 0 6 0 3 2
Yardley (1355 Yardley)
/ after shave lotion
2058J 37 0 9 3 5 5
beauty cases 14431 60 7ea 15 2ea 106 0
14434 83 7ea 20 10ea 146 3
14435 100 7ea 25 2ea 176 0
/ eau de Cologne for men
2028J 53 0 13 3 7 9
Infinite Beauty
515L 103 0 25 9 15 0
Lavender bath essence
7266 73 0 18 3 10 8
/ lipstick refill 68 30 0 7 6 4 5
men's travel kit
20131 413 0 103 3 60 3
/ Poise mist 1440 44 0 11 0 6 5
/ pre-electric shaving
lotion 2022J 41 0 10 3 6 0
/ shaving cream
lather 2056J 24 0 6 0 3 6
brushless 2057J 24 0 6 0 3 6
Clearskin 1514
shaving bowl plywood

D shaving lotion 2158
D vitamin hand care
D 4414
Zubes (563 Hampshire)
D cough sweets 3lb

AMENDMENTS TO KEY TO SUPPLIERS

236 Carven=**Carven Distributors, division of Shulton (Great Britain), Ltd.**, Trevor House, 100 Brompton Road, London, S.W.3.
342 CWLD=**C. W. L. Developments, Ltd.**, Mortimer Hill, Mortimer, nr. Reading, Berks. Mortimer 337.
347 Dalmas=**Dalmas, Ltd.**, Greenfield Factory, Steeley Lane, Chorley, Lancs. Chorley 4251.
425 ELC=**Estee Lauder Cosmetics, Ltd.**, 18 Davies Street, London, W.1. Hyde Park 9271.
551 GI=**Gulton Industries (Britain), Ltd.**, Granville House, 132 Sloane Street, London, S.W.1. Sloane 2191.
667 JCL=**Japanese Cameras, Ltd.**, 50 Piccadilly, Tunstall, Stoke-on-Trent, Staffs. Stoke-on-Trent 65134.
797 M5G=**Maria St. George, Ltd.**, Tile House, Tile House Lane, Denham, Bucks. Denham 2231.
857 ME=**Monogram Electric, Ltd.**, Gatwick Manor Royal, Crawley, Sussex. Crawley 26261.
980 Photopia=**Photopia, Ltd.**, Hempstalls Lane, castle, Staffs. Newcastle 65131.
989 Polaroid=**Polaroid (U.K.), Ltd.**, Rosanne Welwyn Garden City, Herts. Welwyn Garden
1145 Sirex=**Sirex, Ltd.**, Spirella House, Oxford London, W.1. Regent 3542.
1215 T & OE=**Technical & Optical Equipment don), Ltd.**, 15 Praed Street, London, W.1. Amb 3181.
1525 PDP=**Parfums de Paris Ltd.** 66 Sloane London, S.W.1. Belgravia 7342.
1558 MCL=**Mayfair Chemicals, Ltd.**, 33 Station Chadwell Heath, Essex. Seven Kings 2099.
1565 P. Plus=**Paul Plus, Ltd.**, 29 King Street, Ne Staffs. Newcastle 65136.
1575 Ilon=**Ilon Laboratories**, Lorne Street, Ha Lanarks. Hamilton 24310.
1576 P de S=**Parfums de Soisel (U.K.), Ltd.**, 1 A Passage, London, E.1. Bishopsgate 1462.
1577 AT=**Adam, Tucker & Co., Ltd.**, 134 Fulha London, S.W.10. Fremantle 9980.
1578 Vernon=**Vernon & Co., Ltd.**, Penwortha Preston, Lancs. Preston 83293.

THIS WEEK'S CHANGES

Prices are given in the sequence: Trade price per doz./purchase tax per doz./retail price (bold if maintained), thus:—17s 11d/4s 3d/2s 3d. A dash — in any column indicates that the manufacturer has provided no figure appropriate to that column.

A **No. 90** (548 Guerlain)
eau de Cologne
95cc — — **40 6**
190cc — — **62 0**
474cc — — **109 6**
perfume 7cc — — **58 9**
15cc — — **87 6**
toilet water 95cc — — **47 0**
245cc — — **84 6**
Agfacolor (16 Agfa)
R reversal film CT18
35mm karat cassette
20exp. — — *24 2*
36exp. — — *35 3*
Apres l'Ondee (548 Guerlain)
A toilet water 95cc — — **47 0**
245cc — — **84 6**
Armyl (61 APC) TS
● injection vial 2 9ea — —
Arrid (235 Carteret)
C roll-on refill 31 4 7 10 4 3
Astral (333 Cupal)
● air freshener aerosols
Apple Blossom 37 4 — *3 11*
Magnolia Blossom 37 4 — *3 11*
Rose Petal 37 4 — *3 11*
Touch of Spring 37 4 — *3 11*
D apple blossom
6oz & 8oz
D bouquet 12oz
D rose petal 6oz
A **Baghari** (Piguet (1253 Turnpenny)
hair lotion ⅛oz 34 6 8 9 *5 0½*
perfume ⅛oz 12 9ea 3 3ea *22 6*
¼oz 30 3ea 7 7ea *53 0*
½oz 43 2ea 10 10ea *75 6*
1oz 61 11ea 15 6ea *108 6*
2oz 104 2ea 26 1ea *182 3*
4oz 190 9ea 45 3ea *331 6*
travel packs ¼oz 48 9ea 12 2ea *85 3*
1oz 73 9ea 18 5ea *129 0*
2oz 123 3ea 30 10ea *215 9*
soap (3) 24 3ea 6 1ea *42 6*
talcum powder 13 3ea 3 4ea *23 3*
toilet water 2oz 18 6ea 4 6ea *31 6*
4oz 28 0ea 7 0ea *49 0*
8oz 44 0ea 10 6ea *73 6*
16oz 72 6ea 18 3ea *127 0*
32oz 106 0ea 26 6ea *185 0*
atomiser 3oz 50 6ea 12 9ea *88 3*
refill 3oz 36 0ea 9 0ea *63 0*
A **Bandit** (Piguet (1253 Turnpenny)
hair lotion ⅛oz 34 6 8 9 *5 0½*
perfume ¼oz 15 0ea 3 9ea *26 3*
½oz 34 4ea 8 7ea *60 1*
¾oz 57 9ea 14 6ea *101 3*
1oz 88 0ea 22 0ea *154 0*
2oz 151 9ea 38 0ea *265 9*
4oz 267 0ea 66 9ea *467 3*
travel packs ½oz 60 3ea 15 1ea *105 6*
1oz 92 6ea 23 2ea *162 0*
2oz 155 0ea 38 9ea *271 3*
soap (3) 24 3ea 6 1ea *42 6*
talcum powder 13 3ea 3 4ea *23 3*
toilet water 2oz 18 6ea 4 6ea *31 6*
4oz 28 0ea 7 0ea *49 0*
8oz 44 0ea 10 6ea *73 6*
16oz 72 6ea 18 3ea *127 0*
32oz 106 0ea 26 6ea *185 0*
atomiser 3oz 50 6ea 12 9ea *88 3*
refill 3oz 36 0ea 9 0ea *63 0*
● **Ban-O-Dor** (655 ICC)
deodorant 41 10 10 5½ **5 9**

Biocrin (1282 VB)
A treatment shampoo 30 0 7 6 *4 0*
D large size
Breck (1509 CofGB)
● Miss Breck hair spray
140gm 35 0 8 9 *4 11*
D Cadoricin (386 Douek)
Carnation (339 CG)
● corn paint 13 8 3 5 2 0
C **Carters** (23S Carteret)
little liver pills 36 17 8 4 5 **2 4**
100 39 10 9 11 **5 3**
A **Chant d'Aromes** (548 Guerlain)
eau de Cologne
95cc — — **40 6**
190cc — — **62 0**
474cc — — **109 6**
perfume 7cc — — **58 9**
15cc — — **87 6**
spray 7cc — — **63 0**
toilet water 95cc — — **47 0**
245cc — — **84 6**
spray — — **74 6**
Chloretone (938 PD)
D inhalant 1oz & 4oz
D with aconite & iodine 2oz

A = Price advanced
R = Price reduced
● = New entry
D = Delete
C = Correction
/ = Insert

/ **Cravache** (Piguet (1253 Turnpenny)
toilet water for men
2oz 17 0ea 4 3ea 29 3
4oz 27 0ea 6 9ea *47 3*
8oz 39 6ea 10 0ea *69 3*
16oz 66 6ea 17 0ea *116 6*
32oz 103 6ea 26 0ea *181 3*
C **Crystacrin** (1282 VB)
hair dressing 24 0 6 0 *3 6*
/ Cycloserine (678 Kabi) TS
capsules 250mgm
50 68 4ea — *102 6*
500 633 4ea — *950 0*
Daptazole (894 Nicholas)
A injection 30mgm 6 22 2ea — **33 3**
25 79 4ea — **119 0**
vial 150mgm 4 10ea — **7 3**
C **De-Nol** (956 Peptinol)
(distributors 1545 Vestric)
bottle 54 0ea 13 6ea *90 0*
D Dulsol Oil (Cadoricin (386 Douek)
/ **Everyday** (1282 VB)
hair cream 15 0 3 9 *2 3*
● **Farina Johann Maria** (529 Gorney)
Red Crest Cologne
miniature (10) 8 4ea 2 1ea *1 6*
50055 65 2 16 3½ *9 6*
50090 102 0 25 6 *15 0*
50140 148 0 37 0 *22 6*
50180 196 0 49 0 *29 6*
D Fli-Flap (Cadoricin (386 Douek)
A **Fracas** (Piguet (1253 Turnpenny)
hair lotion ⅛oz 34 6 8 9 *5 0½*
perfume ¼oz 12 9ea 3 3ea *22 6*
½oz 30 3ea 7 7ea *53 0*
¾oz 43 2ea 10 10ea *75 6*
1oz 61 11ea 15 6ea *108 6*
2oz 104 2ea 26 1ea *182 3*
4oz 190 9ea 45 3ea *331 6*
travel packs ½oz 48 9ea 12 2ea
1oz 73 9ea 18 5ea
2oz 123 3ea 30 10ea
toilet water 2oz 18 6ea 4 6ea
4oz 28 0ea 7 0ea
8oz 44 0ea 10 6ea
16oz 72 6ea 18 3ea
32oz 106 0ea 26 6ea
atomiser 3oz 50 6ea 12 9ea
refill 3oz 36 0ea 9 0ea
C **Fresh Start** (256 CPL)
cleansing gel 2oz 32 9 8 2
C **Gastrinol** (956 Peptinol)†DDI
(distributors 1545 Vestric)
11 3ea 2 10ea
D Gestona (994 P&M) tablets
Gluco-Fedrin (938 PD)
D 10mls & 1oz
Golden Babe (761 Lilia-White)
C disposable nappy liners
50 26 4 —
A **Guerlain** (S48 Guerlain)
base de maquillage hydratante
tube — —
beaute d'un soir — —
cleansing cream No. 1 — —
— —
No. 2 — —
— —
lotion — —
— —
creme mousseline — —
matfilm — —
skin food Nos. 1-2 — —
— —
A **Jackels** (1282 VB)
hair cream 20 0 5 0
28 0 7 0
A **Jicky** (548 Guerlain)
eau de Cologne
95cc — —
190cc — —
474cc — —
perfume 7cc — —
15cc — —
toilet water 95cc — —
245cc — —
A **Jock** (1419 RW&S)
all meat small 43 0 —
(4 doz.)
large 39 0 —
(2 doz.)
kennel pack 55 8 —
D Kalorafill (1282 VB) existing entry
/ **Kalorafill** (1282 VB)
hair food 48 0 12 0
A **Kattomeat** (1419 RW&S)
meat and liver 41 5 —
(4 doz.)
A **Kennomeat** (1419 RW&S)
meat and liver
small 43 0 —
(4 doz.)
large 39 0 —
(2 doz.)
● **Kodak** (711 Kodak)
Instamatic camera "25"
29 3ea 7 4ea
Kolantyl (838 MN)
C tablets 240 280 0 70 0
D gel 6oz
D Layla (1168 S&J)
/ **Layla** (1372 CCL)

re Bleue (548 Guerlain)
de Cologne
95cc — — 40 6
190cc — — 62 0
474cc — — 109 6
ume 7cc — — 51 0
15cc — — 76 9
25cc — — 115 0
t water 95cc — — 47 0
245cc — — 84 6
1282 VB)
mard ointment 30 0 7 6 4 6
hoid lotion 60 0 15 0 8 9
coid lotion 40 0 10 0 6 6
as colour restorer
36 0 9 0 5 3
coid small size
8 Guerlain)
de Cologne
95cc — — 40 6
190cc — — 62 0
474cc — — 109 6
t water 95cc — — 47 0
245cc — — 84 6
Philippe (386 Douek)
ick refill 56 0 14 0 7 9
ide (894 Nicholas)
oules 10mils 6 23 7ea — 35 5
25 87 0ea — 130 6
100mils 18 3ea — 27 5
tyi Dospan (838 MN) tablets
ns (838 MN)
l (938 PD)†s4B
ts 0.5gm (vet.)
12 6 2ea — 9 3
100 46 8ea — 70 0
ko (548 Guerlain)
de Cologne
95cc — — 40 6
190cc — — 62 0
474cc — — 109 6
ume 7cc — — 51 0
15cc — — 76 9
25cc — — 115 0
t water 95cc — — 47 0
245cc — — 84 6
s (1101 5angers)
an root pills 16 6 4 1½ 2 3
865 Mouliware)
food mill 71 3 7 1½ 9 6
brin Dospan (838 MN)†s7
ets 30 8 10ea 2 2½ea 15 6
(810 Maw)
hbrushes
ture 18 0 — 2 3
okers 18 0 — 2 3
48 Guerlain)
de Cologne
45cc — — 24 0
95cc — — 40 6
190cc — — 62 0
474cc — — 109 6
litre — — 185 0
t water 245cc — — 84 6
ice (1131 5hulton)
-shave lotion lime
3500 81 9 19 11 12 6
dressing 3661 45 3 11 0 6 9
ic (938 PD)
pound 1000
Davis (938 PD)
naline chloride solution
oules 1–1000 1mil 6
ne typhoid-paratyphoid
B & tetanus toxoid vial 10mils
5 MR&Co) ointment
tin K.S. (1393 BRL)†s4BT5
der for suspension
60mils 10 0ea — 15 0
in (938 PD)
oules 0.5mil 50
s (93 BJ)
s (1579 BC)
tibiotic (147 Boots) T5
canal cream
single 96 0 — 12 0
n (938 PD)
eals 125mgm
25 40 0 10 0 5 10
250 25 0ea 6 3ea 43 9
ension 60mils 40 0 10 0 5 10
(1052 Revlon)
te eyelashes
0138 282 3 70 6 42 0
(815 MR&Co) embrocation
nd (1530 Fisons)†s7
ets 30 108 0 27 0 15 9
250 65 0ea 16 3ea 113 9
a (Utermohlen (386 Douek)
on wool coloured
50gm 18 0 — 2 3
100gm 30 0 — 3 9
333 Cupal)
sols
al fly killer 37 4 — 3 11
erfast fly killer 40 6 — 4 3
75 0 — 7 6
thproofer 45 0 — 4 6
p killer 40 6 — 4 3

A cattle louse powder
11b 35 0 — 3 11
I insecticide powder
11b 33 3 — 3 11
D aerosol fly spray all sizes
D moth proofer old packs
Secto-Kil (333 Cupal)
• aerosol 45 0 — 4 6
D old pack
D Shandruff (1282 VB) existing entry
I **Shandruff** (1282 VB)
shampoo sachet 4 0 1 0 7
bottle 18 0 4 6 3 0
I **Sheridans** (1580 5heridan)
theatrical cold cream 48 0 — 6 0
Sooth-Tan (333 Cupal)
A cream 26 6 5 11 3 9
Sous le Vent (548 Guerlain)
A perfume 7cc — — 52 6
15cc — — 79 0
toilet water 95cc — — 47 0
245cc — — 84 6
D Step (386 Douek) existing entry
I **Step** (386 Douek)
dressing table sprays
Cologne for men
50002 14 10ea 3 8½ea 27 6
55001 37 6ea 9 4½ea 70 0
crystal 40506, 40507 50 0ea 12 6ea 92 6
40508 37 6ea 9 4½ea 70 0
40519 58 0ea 14 6ea 105 0
42506 65 0ea 16 3ea 120 0
baccarat 40521 125 0ea 31 3ea 230 0
40524 120 0ea 30 0ea 220 0
40526 115 0ea 28 9ea 210 0
40527 142 0ea 35 6ea 260 0
leerdam 40502 80 0ea 20 0ea 147 0
40520 115 0ea 28 9ea 210 0
glass 30104, 30120 14 10ea 3 8½ea 27 6
30108, 30118, 30119, 30121,
30122, 31110 19 0ea 4 9ea 35 0
Limoges china small 30201, 30208,
30229 27 2ea 6 9½ea 50 0
30209 33 0ea 8 3ea 60 0
Limoges china large 40201, 40208,
40210, 40229, 40231,
40232 42 0ea 10 6ea 77 0
40209 54 0ea 13 6ea 100 0
40228, 40230 39 0ea 9 9ea 72 0
Vieux Rouen 30502, 30503
31 4ea 7 10ea 57 6
30508 19 0ea 4 9ea 35 0
handbag sprays
diffusion 20203, 20207, 20208
20 6ea 5 1½ea 38 0
glass 10101, 10102, 10104
11 4ea 2 10ea 21 0
10201, 10202, 10209, 10218
14 10ea 3 8½ea 27 6
grande luxe 20401, 20406, 20407
20408 37 6ea 9 4½ea 70 0
lacquered 20405 52 6ea 13 1½ea 95 0
Limoges china 10120, 10121,
10122 16 8ea 4 2ea 30 6
10301, 10302, 10305, 10311,
10313 25 6ea 6 4½ea 47 0
10309 31 4ea 7 10ea 57 6
luxe 20303, 20304, 20308, 20313,
20316, 20317, 20318,
20319 25 6ea 6 4½ea 47 0
mother of pearl 10603, 10604
30 0ea 7 6ea 55 0
opal glass 10204 22 8ea 5 8ea 42 0
silver finish 20409 40 6ea 10 1½ea 75 0
standard 20102, 20106, 20108,
20110, 20112 19 6ea 4 10½ea 36 0
Vieux Rouen 10501, 10503
20 0ea 5 0ea 37 0
10505 16 4ea 4 1ea 30 0
I **Tintona** (1282 VB)
hair dyes 21 8 5 5 3 3
Vi-Magna (746 Lederle)
D syrup
I **Vines** (1282 VB)
bay rum 4oz 18 0 4 6 3 0
brilliantines 4oz 18 0 4 6 3 0
scurf lotion 24 0 6 0 3 6
super lacquer aerosol
48 0 12 0 7 6
A **Visa** (Piguet (1253 Turnpenny)
hair lotion ⅜oz 34 6 8 9 5 0½
perfume ¼oz 12 9ea 3 3ea 22 6
½oz 30 3ea 7 7ea 53 0
— ½oz 43 2ea 10 10ea 75 6
1oz 61 11ea 15 6ea 108 6
2oz 104 2ea 26 1ea 182 3
4oz 190 9ea 45 3ea 331 6
travel packs ½oz 48 9ea 12 2ea 85 3
1oz 73 9ea 18 5ea 129 0
2oz 123 3ea 30 10ea 215 9
toilet water 2oz 18 6ea 4 6ea 31 6
4oz 28 0ea 7 0ea 49 0
8oz 44 0ea 10 6ea 73 6
16oz 72 6ea 18 3ea 127 0
32oz 106 0ea 26 6ea 185 0
atomiser 3oz 50 6ea 12 9ea 88 3
refill 3oz 36 0ea 9 0ea 63 0
A **Vol de Nuit** (548 Guerlain)
eau de Cologne
95cc — — 40 6
190cc — — 62 0
474cc — — 109 6
perfume 7cc — — 52 6
15cc — — 79 0
toilet water 95cc — — 47 0
245cc — — 84 6
• **WBC** (234 Cartwright)
antiseptic 2oz 12 9 3 2 1 11
8oz 24 0 6 0 3 11
York Town (1131 5hulton)
C after-shave lotion
2804 106 0 25 10 16 6

AMENDMENTS AND ADDITIONS TO KEY TO SUPPLIERS

678 Kabi=**Kabi Pharmaceuticals, Ltd.**, Bilton House, Uxbridge Road, London, W.5. Ealing 4717.
1579 BC=**Bateman (Cernelle),** Nine Oaks, Over Peover, Knutsford, Ches.
1580 5heridan=**Sheridans Laboratories, Ltd.**, 273 Fulham Road, London, 5.W.10. Flaxman 1168.

C. & D. RETAIL AND DISPENSING PRICE LIST
Monthly List of Changes

Cost			Retail			
d.	*per*	Item	16 oz. *s. d.*	4 oz. *s. d.*	1 oz. *s. d.*	1 dr. *s. d.*
168	100 g	Balsam Peruvian, B.P.C.	—	—	7 2	1 0
240	25 ml.	Ol. bergamot., B.P.C. '49	—	—	—	4 10
312	100 ml.	Ol. lavand. spic., B.P.C.	—	—	13 6	2 0
192	500 ml.	Tinct. benzoin. B.P.C. ..	—	6 2	1 10	0 3
94	500 g.	Ung. ichthammol., B.P.C.	—	3 0	0 11	0 1½